RAILROAD MAGAZINE

25¢

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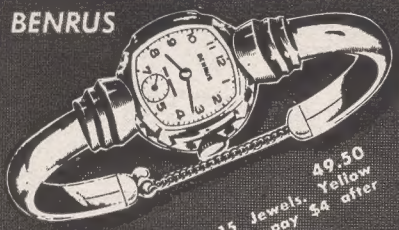

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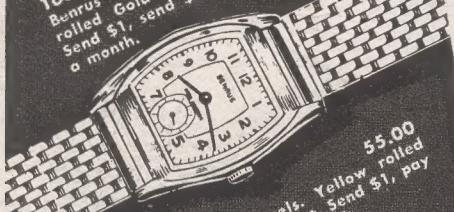

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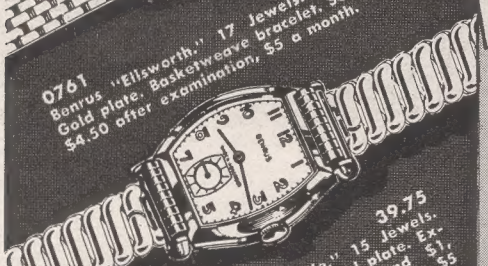

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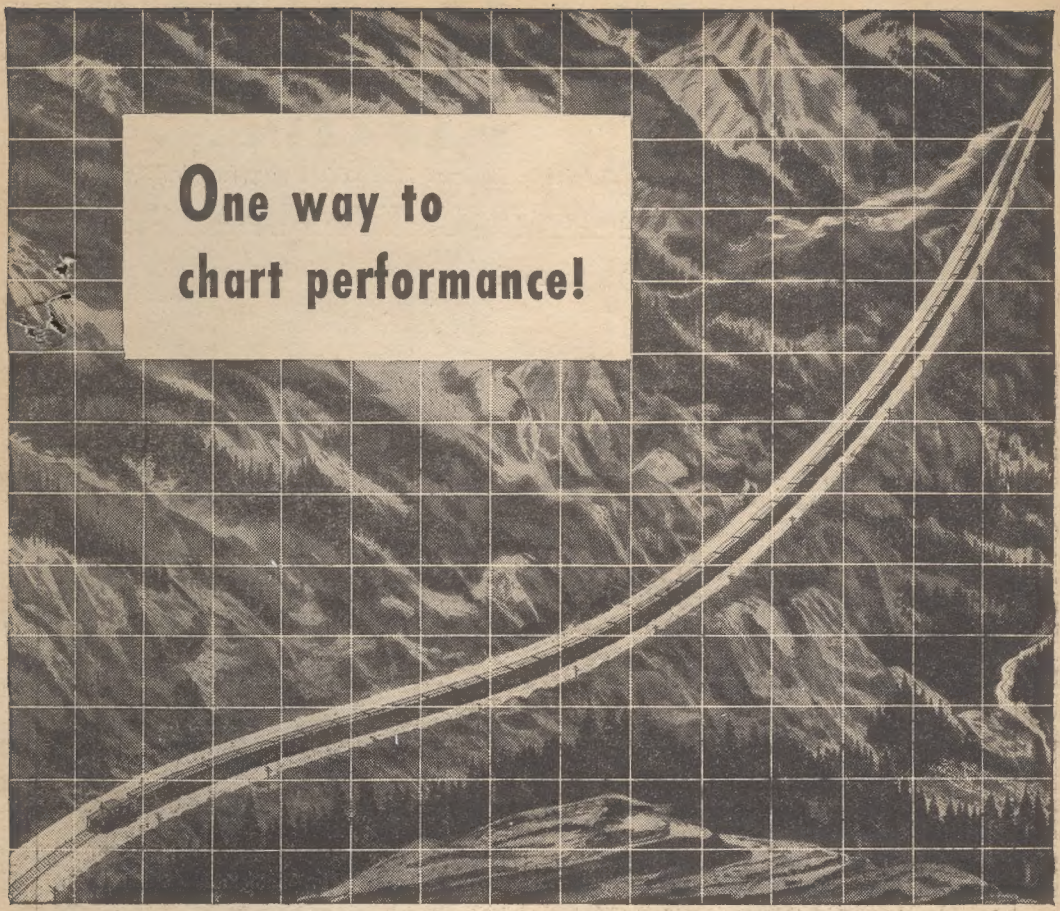

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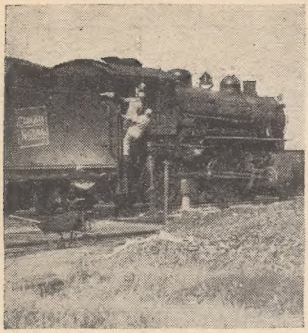

RAILROAD MAGAZINE

Originally Railroad Man's Magazine, founded 1906

December, 1947 Vol. 44, No. 3 25 Cents

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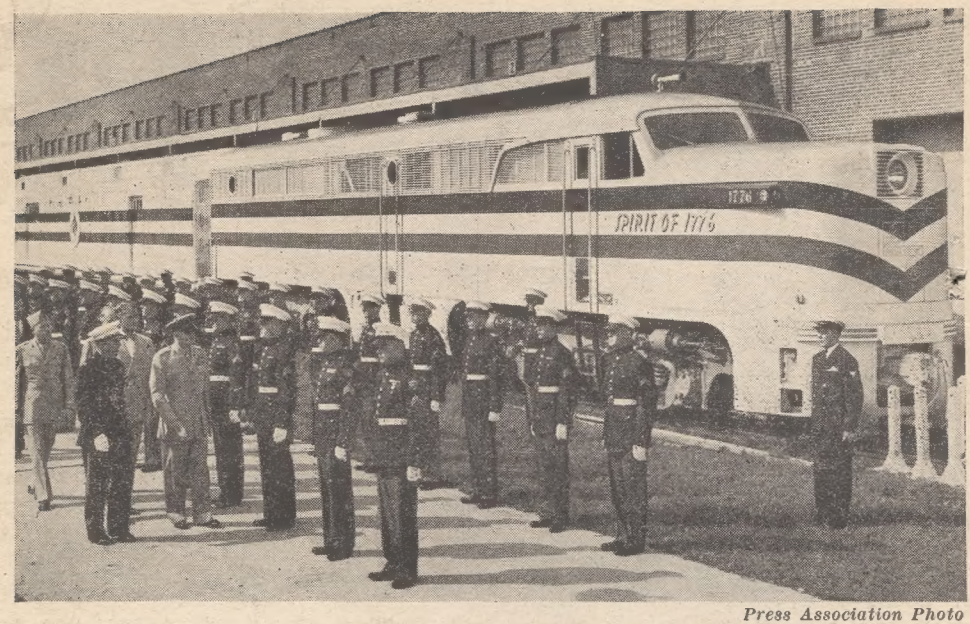

Press Association Photo

OFFICIAL PARTY, headed by Attorney General Tom Clark, inspected the *Freedom Train* at Alco's Schenectady plant before it proceeded to Philadelphia to begin the longest rail tour in American history (33,000 miles)

Freedom Train

Dear Uncle Joe:

Knowing how interested you always is in everything us Americans is doing, I was going to write you a nice long letter describing our *Freedom Train,* which just pulled out of Philadelphia, Pa. That there is a very reactionary city, full of brotherly love and export docks. Maybe you seen some crates from there, yourself—say around 1942.

But I got to hand it to your boys. While I was still taking my morning tub, they got their cable off to you, so all I can add is that they done a zealous job with the sandwich signs, explaining to the masses how this Every-Day-Including-May-Day *Freedom Train* is a lot of capitalistic caviar, dished up by Alco, General Electric and the Camp Fire girls.

The only trouble is, all of us on-the-line Americans has somehow got the notion that we, and not the board of directors of the Atchison, Topeka & Santa Fe, is America's big business. How can you reason with a proletariat like that?

No, Unk, I hate to say it, and perhaps I wouldn't expect for Tom Paine's "Bill of Rights," but you ain't going to cut much ice with them buttonhole shears. Maybe if you was to stop yelling about your railway system being the biggest in the world, and haul a couple of trains into Pstinki on time, we'd send some lads around ourselves, to see what brand of dispatching you used. But shooting delinquent engineers ain't no substitute for CTC. You've got to give them hoggers a few less red flags, some heavy track

Continued on page 8

"He's going places, that boy!"

"Fred came here as a machinist three years ago. Not too much experience, but with a yen to learn and plenty of ambition. He caught on quickly — so quickly, in fact, that I got a little curious.

"Sure enough, it wasn't long before I got a report on him from the International Correspondence Schools. He had enrolled in an I.C.S. Shop Practice course and was making better-than-average grades. On the job, he applied what he learned. In fact, he 'showed up' many of our more experienced machinists. It paid off.

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Thousands of successful "Freds" have acquired their all-important Shop Practice training from the world-famous International Correspondence Schools. If advancement appeals to you, lose no time in following their lead. You can study an I.C.S. Shop Practice course in your spare time — at low cost.

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Press Association Photo

BILL OF RIGHTS, Declaration of Independence, and early draft of the United States Constitution are among top hundred historic documents which are being exhibited in *Freedom Train*. Alco built the "Spirit of 1776;" Pullman, PRR, and Santa Fe supplied the cars.

work, and the right kinda motive power.

Honest, I nearly bust out crying a couple of years ago, when you spent the dough us greedy gold mongers give you, on a batch of vodka urns dreamed up from designs Kerensky turned down in 1917. Confidentially, we only use that kind of locomotives here for making signposts out of their boiler tubes.

You should ought to write for some new catalogs, Unk. Lionel's got a honey for the little shavers, too; it's full of descriptions of engines that really smoke. Maybe you could get the kids to work deciphering the formula. Better yet, why not hop over for a look at this *Freedom Train* yourself. You're a smart man, Unk. Bright enough to see what happened to some of your playmates when they sized us up from a preview of "Gone With The Wind."

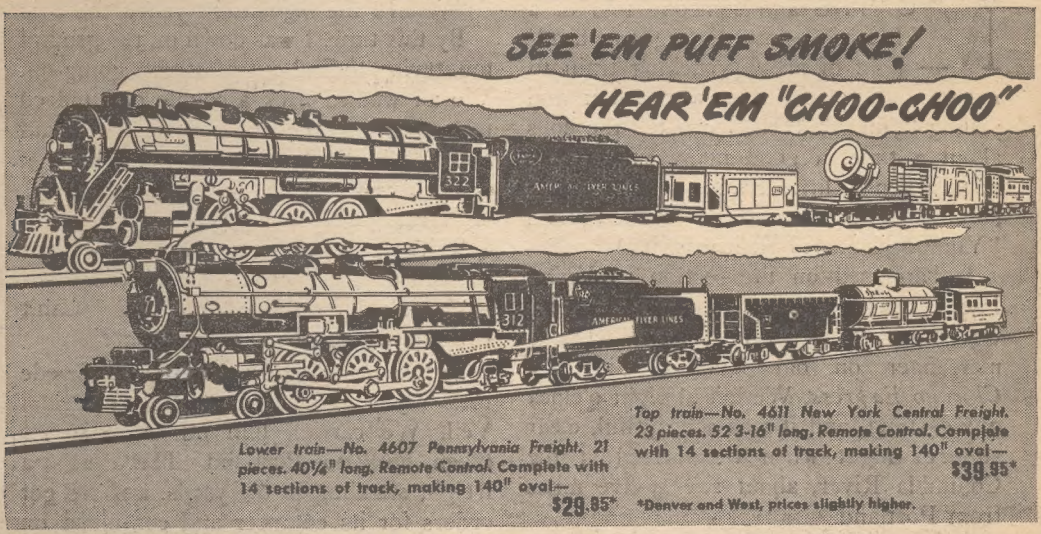
That's why we'd like to have you with us while the *Freedom Train* rolls north and west and south and east. We want to let you hear for yourself the drumming of her Diesel horses in the California redwoods; the hoarse blast of her airhorn slicing a swath through the Kansas wheat fields; the clickety-clack of switch frogs cupping her wheels as she threads the Monongahela workshop south of Pittsburgh.

It ain't that we've got a corner on the scenery, Unk; as a matter of fact you put us to shame with all them newly acquired Balkan national parks. Even the *Freedom Train* exhibits wouldn't mean much to you—you never was one for sloppy sentiment. But, Unk, you're practical as well as bright, and when you seen that we got fifty thousand other *Freedom Trains* each day, linking our efforts together as tight as an after-dinner Cossack, you'd like-as-not launch another ten-year plan. *Freedom Trains* is good for national unity, Unk; the kind you don't get back of the iron drapes.

Henry B. Comstock

AMERICAN FLYER

Developed at the GILBERT HALL OF SCIENCE



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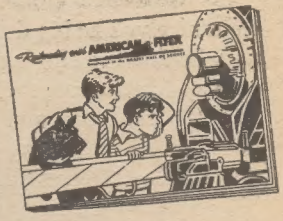

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Headlights and Moonshine

By LARRY McCARTHY

MONTHS ago someone told of a fireman's interpreting the headlight of an approaching train to mean nothing less than a collision and yelling "Jump." Well, I can tell the boys about a time, a good many years gone now, when a little Swede with a fairly good load of moonshine inside yelled "Yump." This is how it was.

It happened on the section of Union Pacific trackage running out of Portland, Oregon, then called the OR&N. I was messenger on old Number Six, the *Chicago Express*. We left at eight o'clock one evening, and it was a beautiful, clear summer night when we arrived at the Columbia River, about twenty-five miles from Portland.

Now there was, and still is, I believe, a high, slim rock right close to the river's edge near the town of Fairview. Between Rooster Rock and the bluffs ran the single track of the old OR&N. We reached this point around nine, hitting a pretty good speed for those days. And the moon was coming up dead ahead, right out of the center of the Columbia River Gorge, as it sometimes did.

As we rolled along, everything went nicely. The big drivers and little wheels were singing their song; up ahead in the cab, the fireman was heaving his coal and the Swede hanging his head out of the window getting the fresh air. Then the big round moon rose up suddenly, just as it'd been doing for ages. It was at this moment that the Swede yelled "Yump."

No one yumped but him. The startled fireman gave a quick look ahead, saw nothing wrong and sprang to the right side. He pulled her down and the con and head brakeman came running up.

"What's the big idea?" yelled the con.

By this time, I was down on the ground too, trying to find out what was going on. We all walked back a couple of hundred feet to where the engineer lay. He had a busted leg and was cussing like mad.

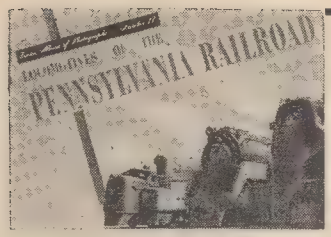
"Did we hit her?" he asked.

"Hit what?" says the con.

"She was coming down that track like a bat out of hell," shouts the Swede.

"You old fool," says the con. "Can't you tell a moon from a headlight?"

So we loaded the poor bruised Swede into my car and went on to Bridal Veil. We carried him off there to be taken back to Portland. There was a freight standing in the yards, and we got orders for its engineer and continued on our way. It was just one of those incidents that made railroading what it was in those days: sometimes laughable, sometimes tragic. Something happened every trip. Never a dull moment, we used to say.



Announcing Four New Albums

WITH MORE ON THE WAY

With the addition of the four new albums pictured on this page, TRAINS magazine is now publishing **18 Albums of Railroad Photographs.** No. 15, **Great Northern Railway,** gives an over-all picture of the railway's 8200-mile network in the northern states, with photos of "Empire Builder" and other trains, together with scenic views of the main line through Glacier National Park. No. 16, **The Burlington Route,** tells the photo story of the CB&Q with its famous "Zephyrs" and Vista Dome cars, and includes typical views along the system. No. 17, **Locomotives of the Pennsylvania Railroad,** illustrates standard locos of the road's present motive power together with outstanding old-timers. The photos, 13½" wide, were supplied by the builders and below each are the principal dimensions. No. 19, **Circus Trains,** presents the story of the transportation of the circus by trains. It shows the entire procedure by which a circus is unpacked from a train and set up for use in just a few hours—with many fine photos of the specially constructed railroad cars.

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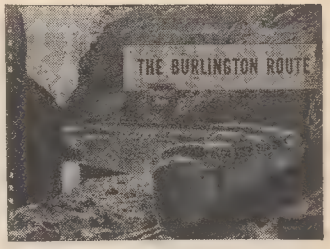

Album No. 18 to be announced later.

1. Eastern Railroads
2. Far Western Railroads
3. Midwestern Railroads
4. Colorado Railroads
5. Southern Railroads
6. New England Railroads
7. Electric Railways
8. Pennsylvania Railroad
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Canada Rolls Its Own

CANADA'S state-owned system of railways was not planned deliberately, but when private industry began backing and building railroads in the latter part of the 1800s, a precedent was set which led eventually to national ownership of the biggest high-iron system in the Western Hemisphere. "At first Canada needed the railroads," said Sir Henry Thornton, hard working executive who consolidated the Canadian National, "and then the railroads badly needed Canada!"

The Dominion had built the Intercolonial Railway to connect Central Canada with the Maritimes on the Atlantic Coast, and then had helped Grand Trunk Pacific build the coast-to-coast Transcontinental Railway. When private operation fell by the wayside, the government

Part II

By WILLIAM L. ROHDE

DISPLAY of power in Turcot Roundhouse, Montreal, and on the road where the 203 Northern types owned by this national railway perform the majority of its continent-long hauls. Turcot sheds have a capacity of 57 locomotives

was going only a step further in taking over the railroad systems themselves.

"We've got the biggest and best railroad in America," a station agent in a medium-sized city stated. "And we sort of feel that we've got something in common. Sort of working for ourselves."

"What if your industry goes into

NEAR Halifax, N. S. Big Mountain Types drag the ***Ocean Limited*** between Halifax and Montreal, 840 miles, in twenty-five hours. Section from Montreal to Riviere du Loup (then eastern terminus) was built by Grand Trunk; the 500 miles between the latter point and Truro, N. S., by the Dominion

the red?" he was asked. "What happens when the railroad loses money?"

"Same thing as in the States," he stuck to his guns, "but we get a complete report every year of what goes on. *And*—" he grinned triumphantly and began to fill a well-colored bulldog meerschaum, "when the depression was at its worst and railroads everywhere were piling into bankruptcy courts, the Canadian National showed a little over three percent profit!"

"When was that?"

"In 1938. Then during the war boom we cleared over twenty-six cents on every dollar we spent to run the railroad. Not a bad percentage in any business."

We thought we had him when we pulled out the CN annual report and showed him the figures on long term debts owed by the railroad . . . over 570 million dollars.

But the Morse man apparently had had plenty of time to study the report while waiting to OS late trains.

"There," he exclaimed, "our assets total better than four times what we owe on old debts! And remember, when the railroad was taken over by the government we got stuck with all the inflated values left over from rosy stock promotions. We're gradually squeezing the water out of them, and everybody will eventually get his money's worth."

The physical plant of the Canadian National, upwards of 23,000 miles of trackage and plenty of real estate, 2,589 locomotives, 5,000 stations, and assorted hotels, offices, and other buildings, certainly represents tangible assets enough to guarantee anyone's money. They are doing all right in the management department, too. It's checked at intervals by the Canadian Government which appoints the Board of Directors and then reviews their activities with a parliamentary committee. In 1945 the road earned a surplus of $2,756,130 *after* payment of interest on its debts.

The minutes of the sessions of the Committee on Railways and Shipping, which turns the Board of Directors into quiz kids once a year or oftener, indicate how carefully a public property can be managed. Not only are millions of dollars shuffled about, and major questions of policy decided, but a public official can ask such minor but important questions as these:

"Would you please try to have a lady's section built in the outhouse at the Petite station? One of my constituents is frequently embarrassed."

"Three men in my town were laid off at the railway shops. Was this necessary?"

Mr. R. C. Vaughan, present CN top brass, pointed out recently that while the Canadian National had shown a satisfactory operation ratio for some time, the rising costs of materials and labor might necessitate a rise in transportation charges. Steel and steel products used by the railroad are up twelve percent, lumber forty-seven percent, and wages increased twenty-six percent, while rates have remained the same. These problems were explained to the committee, for discussion and action.

He also pointed out that, due partly to the debt load bravely shouldered when the Canadian National was organized, fixed charges absorb 11.3 percent of the railroad's revenue, a ratio twice that of the Canadian Pacific or of Class I United States railroads.

On the bright side, he reported that

1050 boxcars and 200 refrigerator cars were put into operation last year, as well as thirty new coaches and twenty mail and baggage cars. At this point, one of the committee members brought up one of the problems which illustrate the value of this type of check on railroad operation.

Mr. Nicholson: "A great many communities in Canada apparently are of the impression that they require new stations . . . Who decides whether they ought to be built?"

Mr. Vaughan: "Our policy is formed by the need, by the condition of the station, by the population it has to serve, and the traffic that is available. We only build them where they are most needed. Naturally, we cannot give everyone a new station who wants one."

Mr. Gibson: "Better not build any new stations until we get more houses."

Mr. Jackman: "Hear, hear!"

Another homey exchange concerned some unnamed individual's complaint.

Mr. Nicholson: "I was informed that twenty bags of flour were unloaded at a single station while a passenger train was held up. Are there many instances like that?"

Mr. Walton (Executive Vice-President, CNR): "The handling of LCL freight on certain passenger trains was undertaken with a view

POWER for the *International Limited*, Montreal-Chicago pool train, is Hudson Type. These K-5-as, built in the Montreal Shops in 1930, are distinguished by smoke deflectors. Here the 5703 draws up for a long drink of water

to meeting truck competition. It may be, as you say, that in some cases we have gone too far with it. I will be glad to take it up and see."

Mr. Nicholson: "If the people were going hungry you could very well ship a bag of flour by a passenger train but when that is not the case it should hardly be necessary when there is a freight train the next day."

Mr. Walton: "Perhaps it was not separated properly."

Mr. Jackman: "The rates are much higher by express than by freight."

Mr. Vaughan: "It may be that somebody was urgently wiring for that particular commodity and they put it on a passenger train."

Mr. Walton: "It is the moving of certain merchandise by passenger trains. It was undertaken some years ago because of truck competition."

Mr. Nicholson: "Yes, but you were not supposed to handle heavy commodities that would hold up a train."

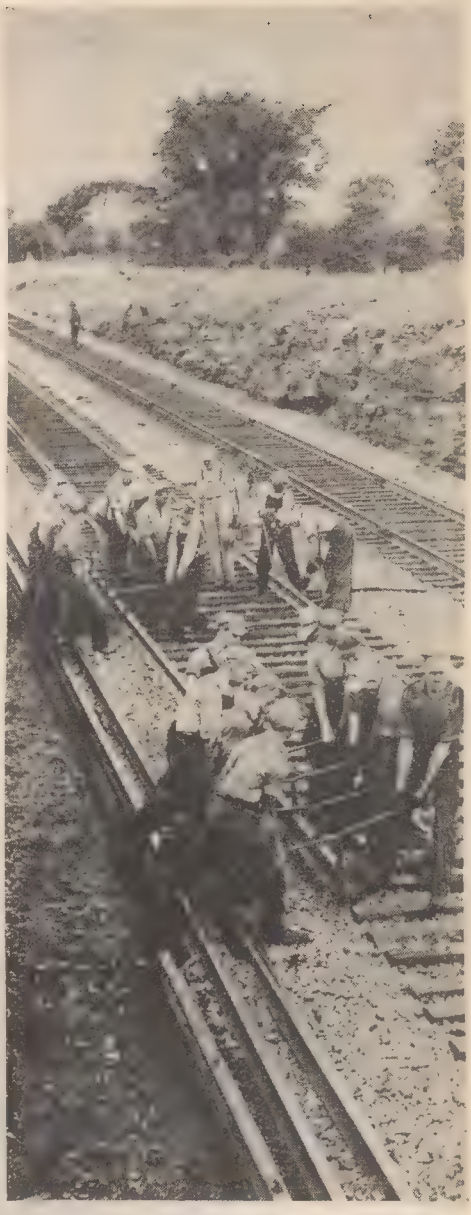
Mr. Jackman: ". . . the cost of transporting twenty tons of flour by freight must be infinitely lower than the cost of transporting it by express."

Mr. Walton: "I do not think there would be anything like twenty tons."

Mr. Nicholson: "I said twenty bags."

Later, in discussing the operation of Canadian National hotels, one of the committeemen had a pertinent observation.

Mr. Harkness: "You order a jug of ice and give the boy that brings it up a dollar. Then you want another jug of ice a few hours later and you get one, but if you give the boy 25 cents, and particularly if you give him nothing, you will wait for a dickens of a time before you get another jug of ice."



TRACK GANGS laying 120-pound steel on the Montreal-Chicago main line have a long way to go before approximately twice 117,438 rail lengths stretch to the Windy City. Here they are 159 miles on the way at Ganoque Jct.

However, the clips and tips of bellboys do not seem to cut into the revenues of the Canadian National hotels, which show a solid four percent return or better on the average.

THE committee goes over the items on the railroad's balance sheet one by one, and they are as ready to talk in pennies as in millions. The Canadian National pays taxes, except on the railroads within the network which were government properties in 1922. Taxes are paid on all CN hotels in western Canada. The salaries of the railroad executives are not high, and operating expenses are reported in minute detail.

In answer to questions from new members of the committee, the Canadian National representatives on the spot explain that there is electrified operation in Montreal and through the St. Clair tunnel between Sarnia and Port Huron. It appears from the following discussion that the CN is going slow on Dieselization, although Halifax, Nova Scotia, is entering protests about the smoke nuisance.

Mr. Gibson has been thinking over his last parlor car ride, and he pops up with: "What would be the cost of pulling a parlor car from Montreal, say? I mean, what would the extra cost be?"

Mr. Walton: "Of course, that is one of the things that are debatable."

Mr. Gibson: "I was wondering how much coal it would take, because that must be the extra cost."

Mr. Walton: "There is the wear and tear on the car, and the shopping of it."

Mr. Vaughan: "And the wear and tear on the tracks."

Mr. Walton: "And the cost of the porter's wages."

Mr. Mutch: "Parlor car service eliminates a lot of wear and tear on your passengers."

Committeeman Mr. Reid had been deep in thought, and he brought up a new subject.

Mr. Reid: "I am speaking now for a minority group in this country, the non-smokers. As a non-smoker, I can tell you it is not pleasant nowadays, since the tobacco companies have induced all the ladies to smoke, to sit there all day in a parlor car where you can hardly see the passengers across the way. I am wondering whether a compartment should be provided for non-smokers. . . ."

Mr. Vaughan: "They are not supposed to smoke in the body of parlor cars."

Mr. Reid: "But they do so."

Mr. Vaughan described the CN's new coaches, with separated sections in the bodies of the cars for smokers, but Mr. Reid was still remembering the coughs he developed as citizens cheerfully filled the air with a blue haze.

Mr. Reid: ". . . When traveling a

THIRTY-THREE HUNDRED volt a.c. motors have been growling through the bore between Port Huron, Mich., and Sarnia, Ont., since 1908. This is the only railroad tunnel crossing the international boundary line

UNION STATION at Toronto is operated by the Toronto Terminal Company for all passenger services. The national system owns all yards and other operational facilities

distance, and sitting there day after day as you do if you come from British Columbia, under the conditions I have described, for a non-smoker it is not very pleasant."

Acting Chairman: "It is pretty hard for the conductor."

Mr. Reid: "Oh, yes."

Mr. Mutch: "Perhaps the minister could give Mr. Reid a pass on the Trans-Canada Air Lines and that would solve the problem."

Acting Chairman: "Get Mr. Reid a good pipe, and I think it will satisfy him."

Mr. Reid: "I have nothing against the pipe. It is the cigarette. I am afraid the tobacco companies will induce the children to smoke next, and there will be nothing but the babies left."

Mr. Gibson tried a fast one after the smoke cleared away. He brought up the question of private cars for railroad officials, but the CN spokesmen came through with flying colors. After tossing the question around, and explaining that the cars should be referred to as business cars, they declared the railroad had about sixty of the special types. This did not include one car recently retired. All of these cars are over twenty-five years old, and it would not seem that the railroad executives are pampering themselves. Some of the top pins share cars, and in a huge country like Canada personal conveyance is often a necessity.

After Mr. Walton told the committee that the CN owns five elevators —at Portland, Maine; Transcona; Fort William; Saint John, New Brunswick; and at Tifflin near Midland, Ontario—Mr. Picard discussed a matter for the folks at home.

Mr. Picard: "In 1945 I brought to the attention of the committee three cases of discomfort at stations in my district. I am still of the same opin-

ion and again I want to bring forward the grievances of some of my own people. . . ."

The voice for the people was reassured that his problems would be looked into.

In passing, it may be noted that in the list of companies comprising the Canadian National Railway System are eighty-seven different companies with a capital stock issue of $207,327,731.92.

These companies blanket Canada from end to end, yet today it is the Central region that shows the profit, with the Western district next, and the Atlantic region trailing after. In other words, the first developed area is now the liability since the Central region has developed industrially.

The committee discusses questions of schedules, types of service, and advocates such changes as may be indicated by suggestions from the public. At the last hearing Mr. Reid brought up an idea of his own. He suggested that transcontinental trains be stopped at Ottawa for forty-five minutes so that travelers across Canada could see the parliament buildings and the city. No doubt some local business men had dreamed this one up.

The President of the CN replied: "I doubt if it would be practical to stop here for any length of time with these transcontinental trains . . . we would never get our trains over the road."

Mr. Nicholson: "There are two or three other daily trains between here and Montreal?"

Mr. Vaughan: "Yes."

Mr. Nicholson: "There are other trains if they wish to stop over?"

Mr. Jackman: "Stop over for the evening and hear the bagpipes."

Leaving for a moment, the problem of trains, the committee went into the report of the Canadian National West Indies Steamships Company.

CAR FERRY at Mulgrave, Nova Scotia, on 24-hour job handling supplies for the Sydney Steel Mills. *Bottom:* Passing through Lachine Canal with CTC tower on left

Quite naturally, any railroad gains traffic if it has ships to draw a wider range of the world's traffic to its lines, even if many of these ships operate at an actual loss themselves. In the case of the Canadian lines, the steamships give service to points which could not be served by private lines due to a steady deficit in operational profits. In addition, mail is carried free.

At the outbreak of the recent war, the fleet comprised eleven vessels. When torpedoes had done their brutal work, only seven ships remained; yet the 1940-45 operations showed a profit on the ships of $8,401,412.86.

CN steamships serve to link Canada, and the Canadian National Railways, with Bermuda, the Leeward Islands, Windward Islands, Barbados, Trinidad, British Guiana, the Bahamas, Jamaica, and British Honduras. To handle the trade in freight and passengers between these points, three small Diesel-driven ships are being added. The first of these, the *Canadian Cruiser,* was built by the Burrard Drydock Company at Quebec, and has entered the service. She is powered by the largest set of Diesel engines built in Canada, 6,000 h.p. units which move the 7,500-ton ship at 16 knots. She carries twelve passengers, and has 16,000 cubic feet of refrigerated space. All cabins have showers and are air-conditioned.

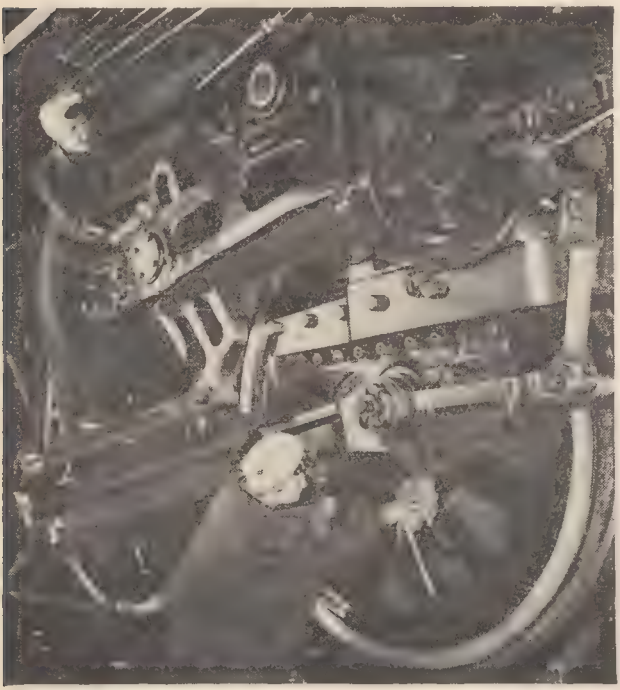
On the Pacific, the *Prince Rupert* operates directly under the Canadian National Railways and travels between Vancouver and Prince Rupert,

in the summer going north to Skagway, Alaska.

Canadian National directors also serve as the directors of the West Indies Steamships and Trans-Canada Air Lines, but draw only one fee. They do not receive extra fees for serving on the boards of the two subsidiary companies, and $5,000 a year from the railroad is their total renumeration.

These integrated transportation systems, the great railroad and the steamships it operates, were the most valuable single service in the prosecution of the last war. In addition to handling a flood of freight and passenger traffic, the railroad produced guns, gun carriages and naval mountings and manufactured and repaired naval and cargo vessels.

SUBURBAN TRAIN moving into Montreal



WAR-TIME women workers, replacement for CNR's 25,000 enlisted men, manicure a fast freight locomotive

The key bottleneck, which never was allowed to become a dangerous hindrance, was Halifax, Nova Scotia, where the railroad had to supply more than 50,000 passenger cars to handle troop movements. The number of passengers during any war year was over three times the normal number, and the payroll zoomed from 132 million dollars in 1940 to 220 million dollars in 1945. Operating

WINTER TIME is trouble time on CNR's Saskatchewan lines where engines in soldierly file fight the mile-long snowdrifts

expenses went up from 202 million to 355 million, but operating revenues also scaled upward from 247 million to 433 million. Every year since 1941 has showed a surplus, from four million in 1941 to a peak thirty-five million in 1943.

Today, as preparations for defense in the frozen Arctic occupy military brass hats, the Canadian National lines thrusting up into the north receive close attention. A private company proposes to build a great new American railroad through the area opened by the Alcan highway, although this project would seem to be a natural for the Canadian National. In any war fought across the North Polar wastes, CN would fall into the role of acting communication system for the rear echelon of such a theater of war.

During the winters, Canada receives a heavy snow fall, and the Canadian National carries on a hard struggle each year to keep its tracks open and to get mail and supplies through to isolated points which sometimes depend solely on the railroad.

ONE postwar question concerns a highway constructed by the Department of Reconstruction to Vancouver in British Columbia, using the railroad right-of-way under an agreement that the highway was for war use only. Now, the railroad has closed off the highway, but there is agitation to re-open it for commercial use. This is a neat problem for the directors, for while they would no doubt like to protect the railroad's monopoly on the transportation route, they cannot for long stand in the way of economic progress.

GLAMOUR is where you find it, in the diner at left, the interior of a redesigned and refurnished chair car like that below, or—opposite page—in a freight drag rumbling toward the Pacific with cars of grain for export. CNR officials settle the argument with figures representing hard cash, with freight three times as glamourous that way as passenger traffic

But when the snow is drifting high, roads are not much competition for the rails. The topography of the country forbids such extensive highway freight traffic as we have in the United States. The climate and the heavy snows are also allies of the Canadian National, rendering the roads impassable during part of each year.

To handle postwar business, CN has placed an order for 3,700 boxcars —one of the largest orders ever placed by the system. The new fifty-ton carriers will be built by the Canadian Car & Foundry, Montreal; by Eastern Car, New Glasgow, N. B.; and by National Steel Car, Hamilton, Ont. They will be larger than any now in service, handling twenty-five percent more of certain types of freight than present rolling stock. They will be all steel, with inside wood finish, and have doors seven feet wide in their forty-foot, six-inch length. Specifications call for a bright red paint job, with the maple leaf in green, and the lettering in white.

Another large order has been placed for 500 forty-foot, forty-ton automobile cars. Built by Canadian Car and Foundry, Montreal, these cars will carry four automobiles instead of the three which at present are a full load for a forty-foot car.

Although the CN has not rushed to join the Diesel parade, the portion of line on Prince Edward Island will shortly be entirely Dieselized. Steam

hogs now move the traffic on the big island, but since all coal must be delivered by car ferry the new power will be easier to fuel.

The Canadian Government is also building for the P.E.I. service the largest car ferry in the world, fulfilling an agreement made during railroad confederation.

To replace the Pacific cruise ships which saw such valiant war service a new steamship is being built at Victoria, B.C. In combined cruiseship and regular service runs, she will again link Vancouver, Prince Rupert, and Alaska . . . and the passengers and freight must certainly make part of their journey via Canadian National Railway trackage.

The ship and airline feeders which the CN is rewelding to its internal rail net, and extending with new equipment into many foreign countries, is another example of how a wide-awake system can grow if the executives will stay on their toes.

Sir Henry Thornton—a man far ahead of his time— laid the tradition of progress, and the men who are following him inherit his broad views through association. For instance, in 1928 the CN was operating the fastest trains over the same distance in the world. Between Montreal and Toronto, 333 miles, they were pushing the mile-a-minute mark including stops. Today we are watching the spread of radio-telephone and tele-

phone-induction communication systems to many railroads, but the Canadian National had all mainline trains equipped with radio and radio operators in 1930. As a novelty? Not at all. To entertain the passengers with radio reception—earphone or loudspeaker, take your choice—and to allow a passenger to make telephone calls from the trains in transit!

Sir Henry Thornton called John C. Burkholder, chief engineer of Canadian National Telegraphs, into his office one day in the late twenties. "Mr. Burkholder," the king-pin of the CN came to the point, "we need communication between our trains and the outside world. I understand the Germans have it. Can you go to Germany and get the knowhow, or have some of their experts come here and show us how to construct the apparatus?"

Burkholder, later to be called an electrical genius, thought a moment. "We can," he replied, "but let's see what we can do in our own department first."

In Car Number 60, the CN's telegraph business car, Burkholder built the first efficient railroad train telephone, much cheaper than the German equivalent, more dependable, and capable of operating two-way. He used the telegraph line induction circuit principle, which is similar to the induction-operated systems being installed on many trains today.

On May 5th, 1929, newspapers in Canada carried headlines: "Frontier of Silence Overcome," "Moving Trains No Longer Isolated," "Canadian National Installing Telephones On Trains." The first trip of a telephone-equipped train between Toronto and Concord was a roaring success. Newsmen from all over the world telephoned dispatches to their papers, a radio program was broadcast from the train, and a New York AP man bewildered his office by calling London, England, and having his dispatch cabled from there!

Business men began to travel Canadian National, because they could keep in touch with their offices; and when the railroad began to receive radio programs in its cars, it moved into the position of being the most modern railroad in the world. One man wrote to the *Chicago Tribune* concerning his experience with the new service. He had boarded a train to Montreal from Chicago, disappointed that he could not see his son play football that afternoon. "Then I found the train radio-equipped," he wrote, "and heard the whole game broadcast. Why can't all trains in the country have radio?"

The Canadian National Railways set up a complete radio network with nine stations, which forms the nucleus of today's CBC. The death of Sir Henry Thornton gave the conservative ax-men their chance to disperse or reduce these services. Nevertheless, the advances that were made by CN under Sir Henry Thornton's guidance continue to benefit Canada. The valuable mining territories, which were reached by the railroad and developed, have alone repaid a thousand times over the cost of the rail expansion. These gains do not show on the balance sheet of the railroad, but an economist looking at Canada always includes them as an advantage to the Dominion.

THE CN FAMILY has been responsible for another development which is, and will be, of inestimable value to the Dominion. The railroad's subsidiary, Trans-Canada Air

HEAD OF THE LAKES, at Port Arthur, Ont., with Trans-Canada airliner flying over the railroad's grain elevator and yards. Here, on the northwest tip of Lake Superior, rail, air and water transportation meet

Lines, is flying more than ten million miles a year, linking Canadian points, touching the United States and stretching out into foreign countries. TCA is one of the safest air transport companies in the world, and the public has complete confidence in the service.

"If there is any question about conditions," an official said, "Trans-Canada Air Lines just doesn't go up."

There have been some stormy scenes and complaints from grounded travelers, but the policy has paid off in the reputation gained by TCA. All Canada knows—"TCA is safe. They never fly if it's bad."

The result? When airline travel drops after each flurry of accidents, and other airliners take off for awhile with many empty seats, the Canadian sky ships continue to carry capacity loads.

Every bit of this favorable publicity is carefully squeezed of its beneficial juice by the astute CN public relations department. This branch of railroading, publicity, is overlooked by many roads, but when used efficiently it repays its cost a thousandfold.

The Canadian National also maintains the most complete photographic department of any railroad in North America. Under the expert direction of veteran cameraman Bill Robinson, pictures go out all over the world, finding their way into school textbooks, newspapers and articles like this. Readers look at the fine pictures, and make a mental note to visit Canada some day. When they do, they will ride the Canadian National.

In New York, keen-eyed Joe Fountain makes sure that American magazines receive information and pictures about what's new on the Maple Leaf Railroad. Most publications in the United States lean towards news about our own railroads, but the smooth, persistent, polite approach of ex-newsman Fountain gets the Canadian National many a plug.

The greatest publicity jamboree in Canada's history was the visit of the British ruling family, when they covered the Dominion aboard the minutely manicured royal train. There was little other news to occupy the front pages at the time, and pictures and copy about the excursion —with a Canadian National Railways background—were seen wherever the printed word penetrates. Indeed, the publicity department was so surfeited with the royal trip that they have not yet begun to reminisce about the great occasion.

In the huge, gray general office building at 360 McGill Street, Montreal, Messers. Thompson, Lash, and Noel continue to tell the world what's new with CN, working closely with the freight and passenger departments. The colorful advertisements which are appearing in the better American magazines are an example of good publicity, and the displays and models which are sent by the CN to various stations and offices are among the cleverest promotion setups ever seen.

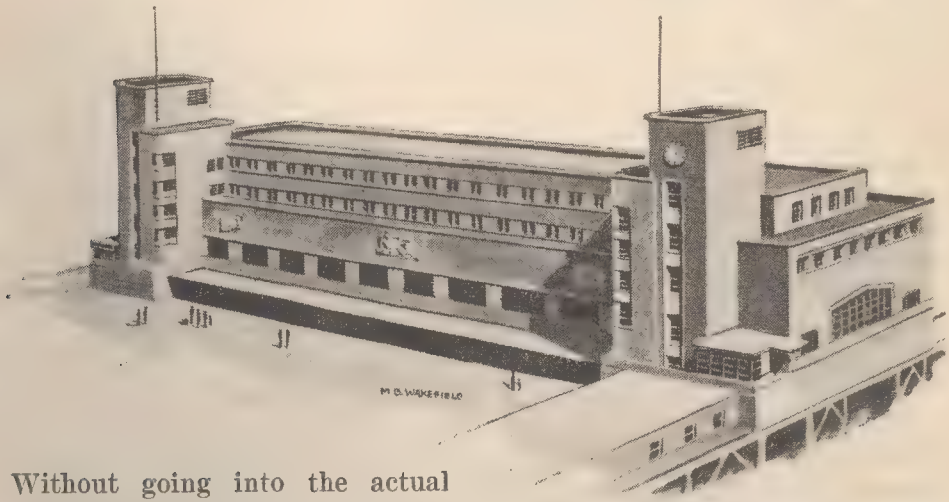
In addition to the scenic wonders through which the CN right-of-way passes, there are some seventeen types of motive power generally available. Has any other railroad fifty-eight Moguls still on the roster? In service also are 595 Consolidations, 458 Mikados, 285 Pacific, and 221 Ten-wheelers? For the specialists in power, the CN can produce 203 Northern types, 93 Santa Fes, and generous numbers of Mountain, Suburban and Hudson engines. Among the yard goats will be found twenty-four electric switchers, 48 Diesel-electrics, and 148 0-8-0s. The best part of it is, all the power is kept up in fine shape . . . if there are any rustpiles hauling trains on the Canadian Carrier, we didn't find them.

Dieselization up to now has been confined to the big pioneer 9000, the forty-eight switchers, and some new orders for the Prince Edward Island service where all coal has to be handled via rail-water-rail before it reaches the tenders. But in spite of the Canadian and Ohio coal mines in the hands of the CN, more Dieselization is indicated.

Without going into the actual savings which American railroads have definitely proven can be made with Diesel operation, the use of the new power, especially in regions far from the mines, will improve operation and save money for the Canadian road in the same manner as it has for others. Above all, it may help extend to more parts of Canada the kind of passenger service its citizens deserve.

The heavy freight traffic, millions of tons of carload and LCL, will be taken care of in better and better fashion as new rolling stock is placed in service, faster runs are inaugerated, and the peaks of postwar business are passed. But the transportation offered the public, as Donald Steffee recently pointed out, is not the best that can be planned for the thriving Dominion with its wide areas between centers of population.

Passenger service will be improved, and the changes for the better will come more promptly, if the men representing the railroad, the Dominion, and the Canadian Pacific stop tripping each other up and stepping on each other's toes. Economic planning for the public good is easier if special interests are intelligent enough to make concessions of benefit to all.



ARTIST'S sketch of Bonaventure Station, Montreal

Streamlined units can be used to take the dead spots out of the Canadian National's network. More and better service is indicated between Montreal and Chicago, Ottawa, and New England. The schedules of nearly all mainline trains, including the cross-continent and Maritime runs, must be overhauled and many gaps which need additional transport considered.

THE improvements will come in three stages, over a period of time. The first step will be taken this year, as the confusion and complacency of

SILVER-AND-BLUE *Royal Train*, Number 6400 in the lead, as it looked in 1939 crossing International Bridge over Niagara River Gorge with George VI and his entourage

war and postwar business dies away and alert men in the head office are again able to stand back and look at their system. Freight and passenger timetables will be revised, and new runs inaugurated. It is hoped that a board of three disinterested experts will be asked to make a study of the CN and submit suggestions, for it is true that the men in the cab often cannot see the sliding wheels.

The second stage will come as the Canadian National continues to expand and economic conditions make it necessary for the Dominion road to absorb the Canadian Pacific. Not only will it be possible to revise and align schedules on the two railroads which now wastefully duplicate but often fail to supplement each other, but whole new routes will be utilized over the combined trackage.

In addition, since the rail unions can be counted on to insist on guarantees of full employment for all members in service, in order that consolidation of the two systems may not result in unemployment, experiments will undoubtedly be made with extra service which would not ordinarily be considered. The road officials will reason that since they have to employ these men anyway for several years until normal retirement reduces the force, it will be sensible to use them on some additional trains meanwhile.

These new services, receiving trial because the equipment and manpower is available and should not be wasted, will uncover many surprising situations. The brass hats can then chime, "See, that new train, Number 79 to Vancouver, is doing a great business. Knew it all the time. Very wise move to put that run on . . ."

The third, smaller but no less important, revision of schedules will come as TCA airlines need rail feeder service to their main terminals. It is unpleasant to the steel trail admirer to envision trains as supplements to planes, but we cannot halt progress, and we can best help the railroad by rushing ahead and planning to fit the iron horse into the new traces.

The sky carriers, at least under present plans, operate most efficiently between terminals two hundred miles apart or between cities having large populations and proper airport facilities. Someone should wake up some bright morning in the near future and begin the long, but interesting, job of matching up the air-rail schedules . . . and issuing a readable timetable so that Mr. Alexander, whose business requires him to travel as quickly as possible from Dartmouth, N.S., to Quesnal, Columbia, can figure his time and routing in a few minutes. Today, unless Mr. Alexander chances upon an unusually alert ticket agent, he must spend several hours making plans.

The compilation of rail-air-rail timetables should be undertaken in the United States also, but they are an immediate must for Canada, with the great distances to be covered by infrequent schedules. As far as we know, the coordination of rail-air passenger transport has not been undertaken on a major scale in either nation, except for a few isolated cases where local operators have matched their airline takeoff times to the arrival of the feeder train.

In line with overall planning, the CN must do more nationwide arranging of operations. With the system divided into three sections, each one a fullsized railroad in itself, there has been a tendency to forget the cooperative way in which the

parts must fit together to obtain maximum efficiency. From now on, more general policy and all operational planning must be done on a national scale rather than on a regional basis. This is quite understandable when we remember that the history of all railroads over the past one hundred years has included the enlargement of operating areas, as speed increased and communications improved, and the constant consolidation of division points and traffic offices.

What do the people of Canada think about their 'own' railroad? One paradox concerns the rate of traffic over the CN and its competitor, the Canadian Pacific. In hard times, the people of the Maple Leaf Dominion support "their" railroad by traveling and shipping via CN. When times are prosperous, the relative gross of the CP as compared to the CN goes up. Apparently, when things are going well in their economic life the people of Canada believe in giving the other fellow a break!

A freight agent in a little Quebec town, where the railroad station and freight house are surrounded by carefully clipped green lawns and four flower beds, put it this way: "The more important shippers," he said, "always have something to complain about from time to time; and one way some of them complain, either about CN or CP service, is to start routing via the other railroad. We have a few who always ship CN, because they believe they are supporting their own system when they do so, and a few who don't even know the difference in the two lines."

"How about consolidation?" he was asked. "Could some of the complaints be salved by faster and better service?"

The agent answered the telephone twice and made out two waybills before he had time to answer. Perhaps he spent the time thinking about his reply.

"Well, yes," he said slowly, evidently still thinking. "Especially if the change included more service where it's needed and more help in some of the offices where we don't have time to give the customers the attention they deserve."

The telephone rang and he turned to go back into his office. "I need a clerk," he finished wistfully. "Even a part time helper would mean I could do more business."

THE Canadian National has jumped wholeheartedly into the business of air transportation, and the brightly painted, polished trucks of the CN are fanning out to do a good job of store-door delivery, but there is a need for expansion in this and the bus transport fields.

Why is this indicated in a country where distance and snow-laden winters makes the railroad the king of transportation? Because of the economic paradox which seems to set up highway transportation as cheaper, while actually over the road traffic costs the people of Canada $75,000,000 a year. In 1945, for instance, the cost of railway freight haulage was 5.8 percent of the national income, but this same traffic had been handled by highway carriers the cost would have been 23.2 percent.

To quote S.W. Fairweather, Vice-President of the CN's Research and Development Department: "The early investigator of rail vs. highway transport costs made a most astounding bloomer, because he predicted that in view of the cost ratios he had

arrived at, highway transport would necessarily be confined to the short haul field. His conclusions, though soothing, did not prevent the bankruptcy of the railway in question."

Where was the investigator in error and how can we correct this situation?

The main fallacy was in disregarding the fact that, while the railroads are the most economical method of moving commodities over long distances, the charges for this service are not computed in relation to the cost of providing it. Every railroad is a monopoly, and freight rates were fixed to prevent vicious monopolistic practices which once prevailed; but pegged at levels in defiance of economic laws, these rates forced fifty percent of the commodities moved by rail to move at less than the cost of transporting them, twenty-five percent to travel at average cost, and twenty-five percent to be carried at above average cost. Why were charges fixed at these levels? To benefit both state and railroad by having the carrier haul all traffic necessary to the existence of society, at the same time making the railroad's profits issue from those commodities best able to pay the higher rates.

A practical, satisfactory bit of planning, until the highway carrier came along! The new vehicles naturally began to haul the gravy items, freight which belonged in the twenty-five percent carried at "above average cost" and intended to off-set the freight carried "at and below average cost." Thus, the highway carriers pocket the profits intended to balance the service the railroad gave the people by carrying some commodities at less than cost.

Although this situation prevails in the United States as well as in Canada, it is the Maple Leaf nation which has the best and most easily applied method of balancing out this unequal situation. By rapidly expanding their own truck-bus fleets to pull the "gravy" traffic back into the Canadian National balance sheet, and by having their own economists aid in revision of the rate structure, our Canadian neighbor will have equalized highway-rail traffic before our own more complicated system can possibly realign itself.

Eventually the United States must balance this situation. Due to its present set-up, the Dominion of Canada will find the solution first. Indeed, the Canadian National is well on the way to answering this problem of modern transport strangled by *laissez faire* economics.

The Santa Fes and Mikados of the Canadian National have a big future lined up for them, hauling the Dominion's goods and people over a railroad nearly long enough to circle the globe at the equator. The clean, red-painted, landscaped stations continue to increase in number for Canada's is still an expanding economy. As soon as the group of men at the top—the job is too big for any one man—begin to gaze down the mainline as they did in 1931 when CN was operating the fastest trains in the world, the Canadian carrier is due for a real highball into the future. Canadian National can't miss, for it has the groundwork, the spirit, and the demand to make it one of the busiest, most efficient, and most interesting steel networks in the world.

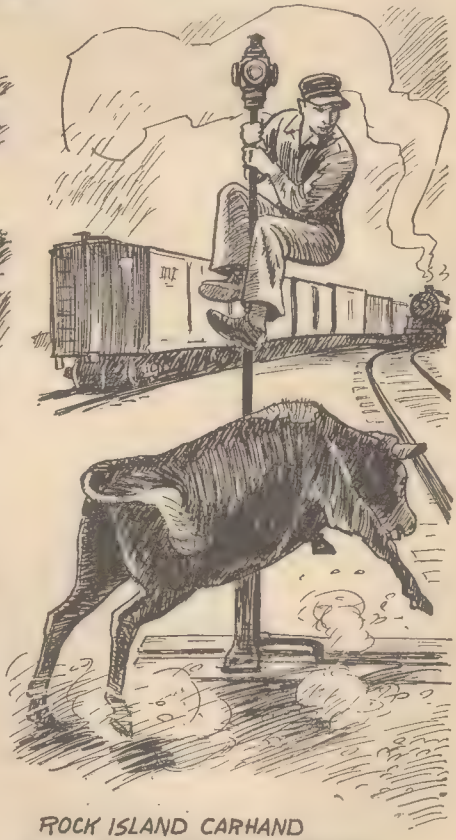
Coming next month: **Railroad Bridges**

ALONG THE IRON PIKE

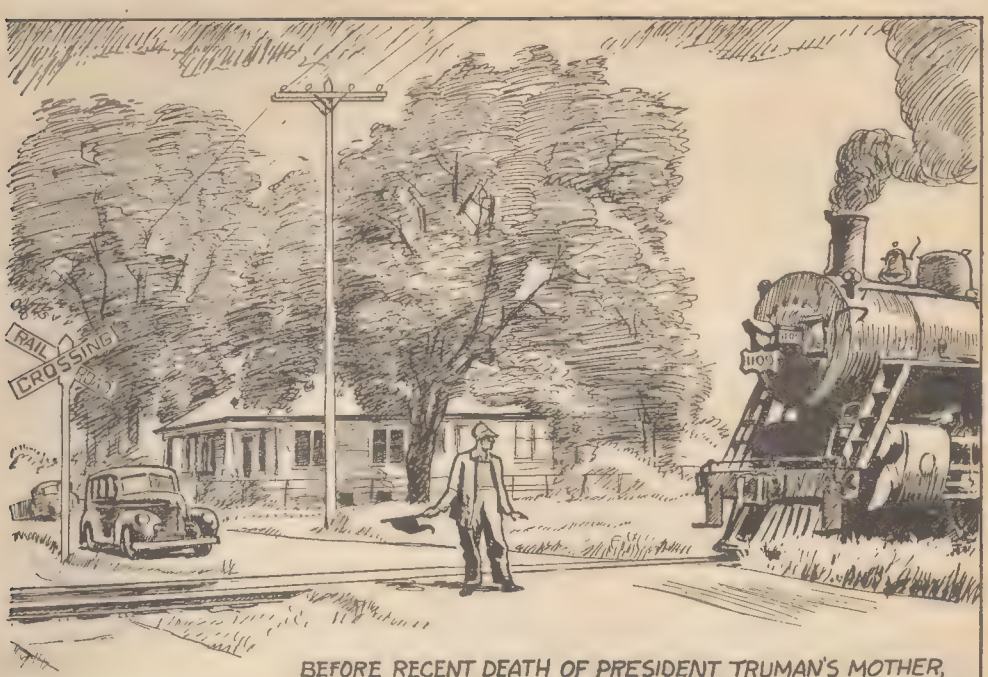
by JOE EASLEY

THE PASTOR AND THE PINCHBAR. REV. HARMON H. BRO, LANARK (ILL.) CHRISTIAN CHURCH, TURNS BACK HIS $200 MONTHLY SALARY AND LIVES ON THE 85-CENT HOURLY SECTION HAND PAY EARNED AS A MILWAUKEE ROAD EMPLOYE (From Press Association Photo)

TUNNEL-LIKE SHEDS ALONG THE SYRIA & GRAND LEBANON RY., BETWEEN BEYROUTH AND DAMAS, PROTECT THE 3 FOOT 5¼ INCH GAGE LINE FROM SHIFTING SANDS (From American Baptist Publication Society)



ROCK ISLAND CARHAND RALPH GODSIL BEAT THE BULL INSTEAD OF THE GOAT, TO THE SWITCHSTAND WHEN A HEIFER BROKE LOOSE FROM A STOCK TRUCK AT ESTHERVILLE, IA. "SURE GLAD IT WASN'T A DWARF SIGNAL," HE SAID



BEFORE RECENT DEATH OF PRESIDENT TRUMAN'S MOTHER, THE FRISCO STATIONED A FLAGMAN AT THE CROSSING NEAR HER HOME TO ELIMINATE THE NOISE OF WARNING TRAIN WHISTLES
(From International News Photos)

BEDROOM BEDLAM. WHEN 14-YEAR-OLD NEWTON CLARK OF NEWTON, MASS., TAKES OVER THE CONTROLS ON THIS BOUDOIR BRILL-LINER, COMPRESSED AIR HISSES, THE HEADLIGHT GLEAMS, AND THE CLANG OF THE BELL DROWNS OUT THE ALARM CLOCK

City of New Orleans

ILLINOIS CENTRAL'S new dayliners rate first in several fields. Beginning operation Sunday, April 27th, the *City* inaugurated the longest "dawn to dusk" luxury coach train run——921 miles. Each of the two liners consists of fourteen cars, nine of which are passenger coaches. Their schedule—fifteen hours and fifteen minutes—outdoes the companion night train, *Panama Limited,* by thirty-five whole minutes, and is the fastest in the history of land transportation between Chicago and New Orleans. Nor has it ever before been possible to go by rail between the Lakes and the Gulf on the same day.

Modern 6,000 horsepower 3-unit Diesel electric locomotives, delivered by Electro-Motive Corporation in the fall of '46, furnish velvet smooth power for the twin *Cities* as they make the run in opposite directions each day. The high strength alloy steel coaches, by Pullman-Standard,

(Continued on page 39)

TRAIN CONSIST is mail-express car, baggage-dormitory car, nine coaches, a diner, a diner-lounge and observation-tavern-lounge. When needed, extra coaches operate to and from St. Louis and Louisville. Exterior coloring is the orange-brown-yellow combination chosen for high visibility

ONE of seven 56-seat coaches in which soft, luxurious chairs are scientifically designed to give ample leg room. A button adjusts the chair to nine positions and the footrest to four

QUIET END of observation-tavern-lounge is shown *at left* in photo snapped when the *City* made a station pause— With the help of a robot electrical "aide" who saves Casey Jones' energy and prevents spotting on passenger apparel however full the glass is filled

MURAL of Andrew Jackson directing the Battle of New Orleans presides over the business end. Half-circle bar is upholstered in colorful leatherette and decorated with brass-studded designs

All photos courtesy Illinois Central

LUNCH COUNTER in the diner-lounge above serves ten seated on comfortable stools with cushioned backs. There is even a footrail for those who demand it. Not pictured are cocktail booths with 8-person capacity and a large open section seating twenty-two. Train crews are outfitted with baggage-dormitory car, which contains working space for the conductor

AT RIGHT: Ladies lounge and, *below*, men's lounge, have double facilities. Mirror lights in each are of the magnifying prism-lens type. The women's dressing rooms have large makeup mirrors; but men are limited to a small glass above the lavatory. Oh, well, it's still a woman's world. . . .

are all of the welded girder type with smooth sides. Slack eliminating couplers ease the trains' nineteen stops en route and double shatterproof glass throughout emphasises the road's slogan: Swift . . . Smart . . . Thrifty . . . Streamlined.

DINER at right is furnished in walnut, its mate on the other *City* in mahogany. Seating capacity for each is thirty-six persons. But, as witness the two in the vestibule, standing-in-line-for-dinner has evidently not been eliminated by the Bob Young system of numbered diner checks

DAY-NITE features for the budget-minded passenger are embodied in the 48-seat coaches. *At left,* extra degree of recline enables traveler to obtain full-length sleeping position with help of large upholstered leg rest

DESIGN of observation-tavern-lounge is informal, to permit neighborly chat and the best view through the 62-inch windows. Colors are predominantly blue and yellow

Boss of Seventeen

Art Strung Was Asking for Trouble. His Crew Only Hoped They'd Last Long Enough to See It

HE WASN'T at the tool shed when I clomped in with my four-buckler overshoes and slid my lunch bucket into the trough on the motor car. Peggy Ryan nodded, his lips thin against the lumpy cigarette his cold fingers had fashioned. I kicked the bottoms of Big Swede's huge feet with comradely gusto, and slouched down against the fork rack.

"He's coming out," Peggy Ryan enlightened me, after I had managed to build a cigarette and get it going. "Big Swede and I tipped him off to the kind of a long-legged, long-nosed son of a company white-rat we got acting as boss on Section 17 while Farrell is on leave."

The wind was noisy in the eaves as we set sat mulling the information. Thirty days with Strung as boss was more than we wanted to face, more than we would have faced. Section 17 was on the verge of blowing apart. All of us were ready to go home and

forget railroading for a while. Now Peggy Ryan was offering us hope.

"Do you think Bushnar can—" I began.

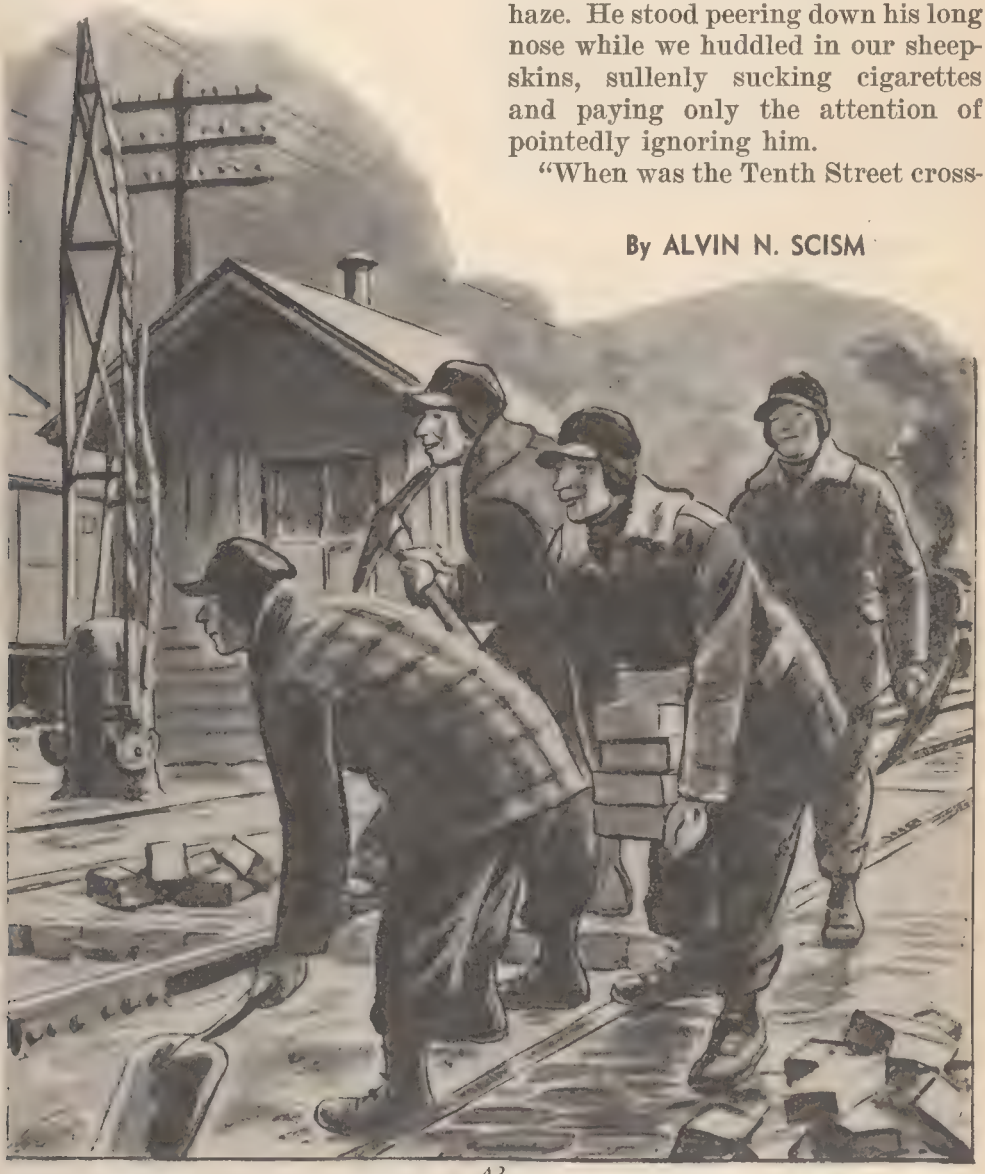
Beside me Big Swede stirred. "Ol' Forest seen this railroad come up from a cow trail through the hills. He'll take care of himself."

It was a thing to hope for. We sat back to watch and to wait. And to hope.

They came in together, Art Strung and Forest Bushnar. I was disappointed. I'd expected a giant or something; but there was nothing of the legend in the squat, stoop-shouldered little man who nodded laconically toward Ryan and Big Swede, and casually ignored the rest of us. Art Strung threw back both doors of the tool shed, letting cold wind drive out the warmth and comfort of our smoke haze. He stood peering down his long nose while we huddled in our sheepskins, sullenly sucking cigarettes and paying only the attention of pointedly ignoring him.

"When was the Tenth Street cross-

By ALVIN N. SCISM



ing last worked on?" he wanted to know.

Nobody answered. The silence grew marked and uncomfortable. Then Peggy Ryan spat and said, "We put new ties on Number 4 track two years ago. The steel gang laid ninety pound on Number 7 last spring."

"Well, somebody did one hell of a job!" he exploded.

Again the silence grew weighted and heavy. This time eight men stared unwinkingly at him, each recognizing the slur as a personal affront and an implication that Section 17 couldn't do satisfactory work. Strung waited, visibly itching for dissension. He wanted to spring his favorite line about his being boss, and any man who didn't like it could pick up his lunch bucket and go home.

Big Swede Larson shifted his cud of *Copenhagen* with a noisy wallowing. "My kids've been roller skatin' on that crossing all summer," he muttered. "Them bricks're smooth as a floor."

Strung's head jerked around and he glared at the dark shape slouched beside me against the fork rack. But Big Swede had retired into the warmth of his sheepskin coat collar and sat chewing imperturbably.

Strung's voice became slightly shrill. "Somebody put in a claim that they broke a car spring on that crossing. The super wired down here about it."

I knew then that we were in for it.

When Division Superintendent Gayle Walker yelled *"frog"* Art Strung broke his neck to jump. Strung was going to amount to something on this road. He had ambitions, and they elevated him half a dozen notches above the common man. He had made that plain before he'd been with us two days.

Strung looked at his watch. "Get track jacks, lining bars, picks and slag forks on the car," he snapped. "I'm going to have that crossing fixed for Farrell when he gets back."

Again that nasty implication that Farrell and Section 17 were slack. Each man retired into his own little shell of resentment. We moved around each other with stolid apathy, as we got up and began throwing tools on the motor car.

THE seven o'clock whistle moaned from the steel works. We shoved the motor out of the shed, making black lines in the heavy frost of the runway. With all the heavy stuff Strung had made us load, it took Big Swede and Ryan and me on the front end lifting while the rest of the crew rode the back end, grabbing the handrail and leaning back to give us leverage. The car lifted onto its hind wheels and we finally got it wheeled around and settled on the track.

Art Strung grunted. He said nothing, but pulled out his watch and stared at it with a doleful shake of his head. It was as though we'd wasted half a day lifting the car around. He climbed up; Ryan and Bushnar took front seats. Big Swede cranked, and then we went popping and sputtering through the labyrinth of tracks toward the Tenth Street crossing.

The cold wave moving in had stopped a week of rain, but ice layered everything. Wind cut our faces like a steel blade. Forest Bushnar ducked down behind the canvas windshield to put a pinch of *Copenhagen* in his lip.

"Watch the track, Bushnar," yelled Strung, "if you're going to ride front seat!" Forest Bushnar didn't look around.

We set off at Tenth Street and began chipping the ice away so we could lift the brick. Wind came across town, getting a good three-mile sweep at us; and it burned its way through mittens and overshoes. You could keep warm only by working at top speed. We went at it that way.

Hokey Guard, the yardmaster, was out watching the yard engine make up train for Number 49 to take north. He sauntered over, his face red and wind-raw.

"I told the agent this crossing was all right," he said. "That Culweather kid was drunk and sent his car up over the curb two blocks east of here. That's where he broke that spring."

Shrugging, Art Strung walked over to stand in the lee of a boxcar. Ryan and Bushnar exchanged glances. Hokey Guard was nobody's fool. He hadn't spent twenty years in the yard not to know when a boss was riding his crew. Hokey changed the subject with practised alacrity.

"How's the ol' yard look after bein' in Alaska with that railroad battalion for four years, Bush?" he asked.

Forest Bushnar straightened and wiped the drop of water from the tip of his nose. "When Timmy Farrell gets back it'll seem like home. Boss Timmy and I've been rootin' these tracks for better'n nine years together. I—"

"All right, Bushnar lay into that pick," Strung shouted. "You aren't getting paid to gossip like some old woman."

BUSHNAR'S lips tightened and for long moments he stood staring at Strung, without moving. Covertly I watched, waiting, hoping. Hokey Guard turned a surprised look on the acting boss of Section 17. Then the yardmaster walked off.

Next thing I knew Bushnar had sunk the point of his pick a full four inches into the creosoted tie that jutted from the frozen slag ballast. Strung's anguished yell could have been heard for half a mile. He came running over, cursing and fuming. Bushnar acted scared as he wrenched the pick free; he swung it against the steel-hard ballast. It was a clumsy, awkward swing, and the pick almost turned in his hands, glancing off the frozen surface and sending chips of metallic slag flying like buckshot.

I heard Strung yell again and when I looked he was holding his hands to his face. Then the hands came down and Strung stood glaring, blood seeping from half a dozen cuts in his face.

Bushnar shook his head sadly. "Feller should never get too close to a man swingin' a pick. It's dangerous."

"Bushnar, if I thought you did that on purpose," Strung raged, "I'd —I'd—" But there wasn't anything he could do, and we all knew it.

The wind crawled into a man's bones and chilled him so he ached with the cold. We worked hard, trying to build up a body heat that would exclude the wind. Yet every time we raised our heads for a breather, Art Strung was there shouting and tongue-lashing as though we were a bunch of saloon-bums working off a thirty-day sentence. Now and then he would dab his face with his handkerchief, but he never took his eyes off the figure of Forest Bushnar. Peggy Ryan winked at me; but I didn't like the looks of things.

The noon whistle gave us rest. We

took our lunch buckets and hiked over to the yardmaster's office for a chance to hug a roaring stove. Hokey Guard grinned and waved his arm, sitting there with the phone clamped to one ear. The crew came in off the yard engine and they got to swapping yarns with Forest Bushnar.

It was easy to see Bushnar was a yard favorite. And it took no great perception to note that Strung, sitting off by himself and eating in silence, resented Bushnar's popularity. But if Bushnar was aware of this feeling, he never let on.

"Blizzard in Dakota now," Guard picked off the wire. "You boys'll be cleaning switches night and day for a week from the sound of it."

"It'd take them a week if it snowed half an inch," Art Strung put in nastily.

THAT remark put a damper on the noon hour. No one was in the humor for talk. Hokey Guard became absorbed in the chatter going on over the wire. Once Peggy Ryan muttered, "They show you many ways to kill a man, Bush?" "Hell, who don't know how to do that?" grouched the Swede. "Maybe it'll be me that'll show you."

We spent the afternoon chipping and working with that crossing, and when night came it was still so torn up we had to put out red lanterns. Art Strung was burning mad. He'd never stopped watching Bushnar, and I told Ryan to put Bushnar on his guard. Peggy Ryan just grinned.

The following morning, Ryan paid no more attention to me, when I tried to warn him that Strung wouldn't take that slag-deal lying down. Art Strung came in then, and we quit talking. About half a minute before seven, Forest Bushnar strolled into the shack, timing it perfectly.

"Weather's coming fast, boys," he said quietly. "Snow's blocked west of Alliance so you'd better warm up those brooms. We'll be sweeping switches before long now."

"Morris," Art Strung cut in coldly. "You take care of the lights. The rest of us will finish that crossing."

I stared in surprise, and Forest Bushnar turned a calculating look in my direction. Filling switchlights was a soft touch, one of the easy jobs that traditionally fell to first man by right of seniority. Strung, however, was deliberately ignoring the fact.

Bushnar put his lunch bucket on the motor car without a word. Strung watched him for a moment, and I'd swear that he was disappointed when Bushnar didn't howl.

"Take my lunch with you," I told Ryan. "I'll work up that way for dinner."

I helped get the motor car out on the track and they got it started. A string of empties blocked Track 4, so they switched her over and went rolling down 8, the motor car coughing and popping like a dozen shotguns in the frosty air. Sometime during the night the wind had died down. The cold, though, was brittle as glass and as sharp in a man's nostrils. I filled two kerosene cans from the company pump, crammed my pockets with waste and started filling switch lights.

The set screws were iced over and the clamps frozen. I had to work to twist and pry them loose. With a whisp of waste I cleaned the colored glass faces, pinched the wick to even burn, and then filled them with kerosene. Then I relighted them.

The westbound whipped through the yards with a roar, whistling sav-

agely at the street crossings. On through town she wailed, surging with a great show of power. Far up the line I saw Hokey Guard wave and an arm extended briefly from the engine cab. It does a man good to know that he's a part of a friendly, close-working team; and I was whistling when I picked up my kerosene cans.

THE BOSS boarded the motor with the rest of the gang, who were looking mighty guilty

AT NOON the yardmaster's shack was like an execution cell. Nobody talked, nobody laughed; a grim tight-nerved tension weighted against every word so that it was a relief when the one-o'clock whistle put us out to work again.

I managed to be close to the tool shack at five so I could knock off and go home with the rest. Ryan and Bushnar left together, neither talking much. Art Strung locked the tool shack and climbed into his car. I fooled around building a smoke, but when nobody wanted to talk about

what had happened, I wandered home.

The blizzard hadn't struck when I went out the next morning. Schedules were changed, however, trains being rerouted so that we were getting through trains about every thirty minutes. We put the finishing touches to the crossing, laying a few bricks and then standing back while a train went by, then laying a few bricks again. Peggy Ryan told me how Forest Bushnar had taken a drubbing the day before.

Bushnar had gotten down on his knees and sighted along the rails to see why we were carrying track jacks and lining bars for crossing work. Ryan said Art Strung's face got red and he bawled Bushnar out for loafing, Bushnar who'd been working the yards for twenty-six years. But wise to the ways of railroad, Bushnar said nothing.

The rest of the crew watched with wonderment. This wasn't the Bushnar they had known or heard about. Only Big Swede Larson and Peggy Ryan seemed unperturbed by the situation. For myself, I was uneasy. I felt Bushnar's glance studying me every now and then, as if he were trying to figure just how I stood with the crew. Art Strung's giving me that switchlight job hadn't helped.

We lay about the red-bellied stove in Hokey Guard's shack, smoking and taking it easy. Forest Bushnar drew a ragged deck of cards from his dinner bucket.

"Any o' you lads got a penny to donate to a good cause?" he asked. "We—"

"No gambling, Bushnar!" Strung cut in. "You've been on the road long enough to know that!" Reciting rule and regulation number, he blocked the game before it began. Forest Bushnar shoved the deck back into his bucket slowly, saying nothing. But Strung should have been warned by the expression in Bushnar's faded blue eyes.

"Ninety-seven is going to lay off three cars of sheep," Hokey Guard said suddenly. "Double deckers. One-thirteen will pick them up tonight."

Sleet spat against the windows like handfuls of gravel. The wind moaned through the wires that festooned the yard-office eaves.

"That's your job, Bushnar," said the section boss. "Take Ryan and Larson and Morris there. The rest of us will be sharpening picks at the roundhouse."

Bushnar nodded. "Am I in charge?"

"I'm the only man in charge of anything on this crew," Strung snapped. "If you were any account you'd be bossing a section instead of working for twenty-six years like a common no-good!"

Even then Bushnar didn't say anything. But Hokey Guard was mad. "Easy, Strung," he said in a clipped, damn-your-guts tone.

WE FILED outside and stood around while Strung climbed on the motor car. The rest of the crew looked guilty—as though they'd been caught pilfering from boxcars. The roundhouse would be warm. They'd be taking it easy, while the four of us fought out of ice-locked stock cars.

Bushnar led the way. We headed into the wind on the three-quarter mile walk up the yards toward the stockyards where we would find the sheep cars. The switch engine gave us a lift. Then we began laying out hay and running a little water into the low cement troughs.

Number 97 was piled high with

snow when she came steaming into the yards. Her boiler showed black and hot; but ice and snow lay thick against the tender. It was caked almost solid along the north sides of the cars.

"That blizzard'll be here before an hour's out," Bushnar observed. "Wonder if Strung figured on that?"

We had a quick smoke while the switch engine picked up the sheep cars and spotted them for us. Then we chipped ice and fought to get the heavy ramps hoisted and locked into place. Designed to hold tons of surging livestock and built of two-by-tens and planks, the ramps were man-killers even for a full crew. The four of us were all but helpless.

The counterweights were frozen and iced. It took the better part of an hour getting ready for the first car. And by that time the blizzard had thrown a solid wall of screaming white across the sky.

Sheep are stupid beasts at best. They won't leave a car even for feed and water—unless you're trying to load them, and then they won't go in. We had to climb in among the blubbery, watery-nosed critters. Ryan went first. He laced his hands in the wool and heaved, throwing the animal toward Big Swede who crouched in the door. Big Swede grabbed the sheep and shoved it down the ramp to me. I gave it another little boost.

Swede and I got back out of the way and Peggy Ryan tried to haze the rest of the sheep after the first one. When that didn't work, we hauled four or five down the ramp and tried again. Finally we got them stringing out of the car and down the ramp. A long stretch of bare ice lay across one runway and the sheep refused to cross, bunching in a pile and stopping the unloading.

Bushnar charged in behind them with a wild yell. The sheep veered away from him, pushing against those ahead. One leader jumped the ice, a second followed, and then the bunch went on.

The snow thickened. It cut like broken glass as the wind whipped it into our faces. We got the bottom tier out and the switch engine shoved up the second car. Then it was the same thing all over.

We fought and swore at the stubborn creatures that refused to leave the car. A big ram charged Peggy Ryan who was crouched in the narrow space of the top tier. Ryan lunged aside. He grabbed the ram as it went by, and shoved it toward Big Swede, who tossed it head over heels down the ramp. Then the second car was unloaded. But Ryan was bushed; his breath was wheezing through his open mouth.

The switch engine worked the last car into place. It tooted twice and headed into the swirling white haze that lay blindingly close to a man's eyes. Bushnar and I climbed into the last car. The sheep were wild and stubborn but refused to move. We had to drag them one by one to the ramp and shove them down, so it was nearly an hour before we got the top tier emptied.

"Four dead ones here, Bushnar," I said.

The sheep had piled into a corner and been trampled down. I grabbed a couple by the legs and dragged them toward the door. Forest Bushnar went over and took the remaining two.

I had started to throw them down just outside the ramp, when he stopped me. "Come on," he said.

I followed Bushnar down the ramp and along the runway. He threw his

sheep over the outside fence and stood waiting while I pitched my two over. I began to wonder.

Forest Bushnar stood looking at me, holding his face close to mine. I returned the scrutiny, watching his watery blue eyes search my face.

"Peggy and Big Swede say you're all right, Morris," he said.

BUSHNAR didn't say any more. He crawled over the fence and picked up two dead sheep. I followed. The comment had voiced his trust in my discretion, and I was honor-bound to do as he directed. We faced into the storm for half a block, feeling our way blindly through the howling fury of snow-laden wind. Then we came to a big cement culvert that drained the yards and crossed under the tracks. Bushnar threw his sheep as far back into the culvert as he could manage. My sheep followed.

We didn't say anything as we trudged back to the stock yards. If Ryan and Big Swede had missed us, they never let on. We hunched our shoulders into sheepskin coats and let the wind shove us down the yards.

At the yardmaster's shack we stopped for a quick smoke and warm up. Forest Bushnar grinned and shoveled snuff from his thumb nail to his lower lip. "You'll start earnin' your money now, Hokey," he told the yardmaster.

Hokey Guard grunted, too busy riding the wires to pay much attention. We warmed good and went out, tramping through the gloom and howling wind to the roundhouse.

"Everything all right, or will I have to go and see for myself?" Art Strung demanded as we entered the big smoke-stinking building.

Bushnar shrugged. "You can go check if you want to," he said. "They're fed and watered. I told Hokey Guard as we came by the shack."

I waited; but Bushnar made no mention of the dead sheep. I began to see through his scheme, and I wondered how he figured he could get away with it. While I was debating the phone rang. Art Strung came back with news that the yard engine was having trouble with the switch on Upper 6. Our work had started.

We took brooms and scoops and began the long hard vigil of keeping switchpoints free of snow and ice, sweeping, scooping, chipping. The day wore on and still there was no let-up. We went home to supper two at a time, reporting back afterward to keep up the battle.

The snow banked deep beneath the cars and threw long drifts across the tracks. The switch engine crew went home; the yards grew quiet and lonely, ripped by the screeching wind and the driving wash of snow. Shortly before midnight we trudged home so groggy we could hardly stand.

At five we were in the yards again, digging our way through so that the switch engine could get around to make up trains. Around about noon Art Strung was forced to call for help and the east bunch stayed in town to assist us. And then the wind died. The snowing stopped, and we dragged ourselves back to the yard office. Hokey Guard had the stove cherry red. His red face was lined and haggard, as he waved. But we had done ourselves proud. The yards hadn't closed.

WHEN the super walked in, we were sprawled around the stove like so many limp, lumpy spokes to a wheel. Art Strung got up quickly.

"How do you do, Mr. Walker," he

said, fawning and scraping like he was talking to the president of the line.

Forest Bushnar rolled over on one elbow and grinned.

"Hi-ya, Bushnar," the super called. "What the hell did you bring this Alaska weather back with you for?"

"This ain't Alaska weather," Bushnar retorted. "This is a puny little runt that was crowded out up there and had to come down here to get noticed."

The super turned and walked over to Art Strung. "You remember that bunch of sheep that laid over here on the fourteenth?"

Art Strung nodded, glad to have a chance to demonstrate superiority. "Yes, I remember. Billed from Billings, Montana. Three double-decker cars. Came in on 97, went out on 113."

"You fed and watered them?" the super quizzed.

Forest Bushnar rolled over and watched unabashed. I began to squirm, knowing what was coming. Big Swede and Peggy Ryan grinned at each other, as Art Strung began to get flustered.

"I sure did feed and water them," Art Strung said. "I'm seeing to it that things are done right on Section 17, Mr. Walker. You can hold me personally responsible. . . ." He didn't finish, but it was plain that he was sticking out his chest for any credits that the super might be handing around.

"Well, Strung," the super said shortly, "you billed them out as being all okay, but those cars were four sheep short when they got into Kansas City!"

Art Strung's face grew white and strained looking. A strickened look flashed into his eyes as he looked past the super into the bland features of Forest Bushnar.

"You tended them yourself, you say?" the brass hat persisted.

Art Strung was hooked and he knew it. He shook his head. "I left it up to Forest Bushnar and the top three men," he admitted abjectedly.

The super turned a quick look at Forest Bushnar. Knowing him of old, he was sensing what had happened. But Bushnar was grinning placidly.

"I'm not in charge of nothing," Bushnar said. "If I was any account, I'd be bossing a section instead of working for twenty-six years like a common no-good."

Art Strung's words bounced through the quiet of the yard office, confirming what Hokey Guard and the super suspected had happened. Bushnar never used that kind of language; it just didn't fit his mouth.

"Let's go over to the depot, Strung," said the super. "This is going to take some looking into."

Strung got up like a man going to his execution. He walked out blindly. The super frowned at Bushnar, then turned a sharp look at Hokey Guard; but when he went out I'd swear that he had started to smile.

"Might be them sheep crowded into that big culvert down atween Fifteenth and Sixteenth there," Forest Bushnar observed slowly. "Seems I heared tell of sheep that crowded themselves to death thataway."

Hokey Guard didn't let on. "Might be worth a look when this snow clears away," he agreed soberly. "But I reckon it'll be Tim Farrell's crew that does the lookin'."

He started laughing then, and the old office walls fairly bulged as we rolled on the floor and roared. Section 17 was coming into its own.

Pennsy's Steel Thunderbolts

Electric Locomotives Meant Transportation of Prime Power by Wire Instead of Wheels

THE MIGHTY PRR'S four-and six-tracked mainline between Washington and New York is famed as the scene of precision railroading unsurpassed anywhere in the world. Over this completely electrified racetrack speed such famous name trains as *The Congressional Limited, The Speaker* and *The President* —and the streamliners of Southern roads like the Southern's *Southerner* and the rejuvenated Seaboard Air Line's bids for traveler patronage. When you count passenger loads on such additional trains as *The Sun Queen, The Vacationer* and the luxurious *Potomac,* this line can safely boast that it carries the largest passenger traffic in the country.

Photos by
FRANK CLODFELTER

First in traffic, the line is also first in weight of rails. Engineers glide their trains over 152-pound steel with the ease of the proverbial greased lightning. More than one Pennsy engineer has stated that *he* doesn't begin counting the passenger cars until they outnumber fifteen. Inside track is 152 pounds in most places, with the slimmer outside rails weighing in at 131 pounds to the yard.

For added safety, Pennsy has installed position-light signals geared to the incredible traffic density and hundred-mile-per-hour speeds. Cab signals, which give the engineman constant information on the condition of the block ahead, form an additional safety device. Carrying mose passengers, hauling more freight than any other road in the world and operating more track miles than any single railroad in the country, Pennsy naturally ranks first in gross revenue. The Washington-New York mainline is the pride spot of the system.

BETWEEN Potomac Yards and Sunny Side, L. I., gold-stripped, P-5As and Raymond Loewy-contoured GG-1s touch their pantographs to cantenarys strung under 855 miles of heavy transmission cable sheaved to more than 8000 five-ton steel poles. ***At left:*** The 4920 leaving Washington terminal with a passenger train. ***Above:*** GG-1 southbound passes under a signal tower

FOUR of the 4800 series approaching Baltimore. ***At left***, freight emerging from the tunnel; ***above***, a southbound passenger moves on the local Pennsy station, and ***below***, doubleheaders between New York and Washington. GG-1s triumphed over the R-1 experimental engine in 1933 tests made at Claymount, Del.

ABOVE: Scene in Pennsylvania Station (N. Y.) control tower shows illumined diagram of track layout, with lights indicating train locations. Operators set switches by turning cranks. PRR pioneered in the installation of mechanical switch and signal interlocking plants

AT LEFT: Number 4855 thunders beneath overpass south of Baltimore station. Twelve wires to each concrete tower create trapeze effect overhead. Two are signaling; two, static wires. Four carry high voltage current to eight substations. Other four feed the 11,000-volt current from substations to train

MINUS gold strips, the P-5As, *bottom left*, have been re-geared for freight service

AT RIGHT: End of run at Pennsylvania Station for *The Southerner*, GG-1-powered from Washington

Trapped In a Boiler

By WALTER S. SPOTT

BACK in 1922, I started learning my trade as a machinist at Dunmore, Pennsylvania. The Erie setup was well-equipped for making minor and general repairs, including a machine shop, tool room, tinshop, boiler and erecting shops, and various departments necessary for proper management. After working there several months I was approached by Mr. Lauks, our shop foreman, who was accompanied by Billy Evans.

"Spott, you know Old Billy here," he said, and the pair of us nodded. "Well, I want you to work with him and get some experience in the erecting shop."

Billy got what we called the easy jobs. They weren't necessarily easy, but usually it was work which had no rush order. Billy accomplished in eight hours what a young man did in two. I was disappointed; I knew I'd have to wait for that experience a while longer.

At this time Old Billy was checking and grinding throttle valves and other odds and ends on engines coming in for repairs. It seemed to take him an eternity to climb up and down an engine and decide in which way a job should be done.

Well, one afternoon at 1:30, Number 3030 came in for repairs, including grinding and checking her throttle valve which was our job. The boss told us she had to be ready by four o'clock at the latest, as she was due back in service at 4:30. This was ample time, provided nothing unusual went wrong.

Old Billy figured out what to do. Glad of a chance to get busy, I climbed to the top of the boiler and proceeded to remove the dome casing and dome cap so we could get inside the boiler to the throttle-valve mechanism. After removing the thirty or forty ⅞-inch nuts which held the cover down, we had to wait for a crane to lift it off. The cap weighed from one hundred fifty to two hundred pounds. While not too heavy for two men to lift, for safety it had to be lowered to the floor, using the crane.

Under this cover was a round copper ring about eighteen to twenty-four inches in diameter. Billy examined this.

"I'll have to take this to the tinshop for annealing," he decided, "since the store room won't have one this size. Meantime, you take out those," he said pointing to two ⅞ by 3-inch flat cotter keys, which had to be removed in order to grind the valve.

Billy left the ring at the tinshop and returned to complete our work. When we were finished except for the replacement of the copper ring and cover, it was a question of picking up the copper ring.

"I'll go find out whether the gasket is ready," said Billy. "Suppose you get down in the boiler and wait. Take your hammer and torch along and if the boss comes by, hammer on the flues so he'll think you're working."

I WAS small enough to squeeze down between the throttle valve and dome side walls. I sat on the boiler flues, my feet hanging over the curved shape of the boiler, my shoes almost touching the water in the boiler. With kerosene lamp and hammer beside me, I waited. The air was heavy; I began to feel drowsy.

Then I felt a sudden jerk. I seemed to be in a trance. Complete darkness surrounded me. My torch had gone out and there was water up to my knees. I'd fallen asleep and the jerk had awakened me.

Beads of perspiration stood out on my forehead, as the terrifying noise of a blower sounded in my ears. I knew I was locked inside the boiler. I had to control my excitement. It was three o'clock when I went into the boiler, and Lord knew how long I had been sleeping. I had to do something—quickly.

The racket I knew was a blower used to get up steam in an engine. But was it the engine I was in or another one in the yard? I wasn't sure. The water was up to my knees now. Then came a sudden jerk. Oh, God! I thought, they're getting ready to pull her out of the shop.

These ideas flashed through my mind during the second after awakening. Lying on the flues, I knew I had to signal to someone outside. I remembered the hammer. The blood was pounding in my head, as I sat up quickly and reaching for it struck my head on the side of the boiler.

My hammer was gone. Without that I knew I would be boiled alive. I was frantic.

Realizing my predicament, I forced myself to be calm. I had the hammer with me and it couldn't have traveled far. The jerk which awakened me—could that have dislodged the hammer? I felt between the boiler flues. The handle of the hammer had slipped down but its head prevented its disappearing entirely.

With my new-found hope, I pushed my body up between the throttle valve and dome walls, cutting my face and hands, bruising myself on the cotter keys. The hammer clutched in my hand, I began to pound on the sides of the boiler. After what seemed an eternity, I heard the sound of a wrench.

Was Old Billy tightening the nuts which held the cover down? I pounded harder than before. Then finally came the sound I'd been praying for, a signal from outside.

When the cover was removed, I looked up into a dozen friendly, smiling faces—and daylight. I'd escaped being scalded to death.

THE terrifying noise of a blower sounded in my ears

Photos by Keith Dennison

FOREST FLAGSTOP. Stations are where you find them along the *Skunk's* roundabout roadway between Willits and Fort Bragg, California. Residents build their own trainsheds

The *Skunk*

Doesn't Worry Much About Equipment: It Offers Service. Put a Piece of White Paper on Its Tracks and Watch What Happens

By VIRGINIA COONTZ

BUCKING its way over a Burma Road from Fort Bragg to Willits along California's redwood coast is a one-car train called the *Skunk*. It jogs along in friendly fashion through wilderness undisturbed by other means of transportation, providing one of the last examples of personalized railroad service. It's a holdover from the days when conductors were expected to hold crying children, keep a pot-bellied stove at good heat and step carefully over the homemade lunches spread through the coaches.

The *Skunk* serves people who have taken to the woods and depend on this train for food, information and mail. Supply line for milk, gossip and the daily paper, it also hauls baby chicks, bee hives, dogs, ice, beer, groceries, farm tools, and sometimes the new-born and the dead. It is the only link with civilization for the hundreds who live by the tracks. And they are growing in number.

Along with the cargo of regular residents, the *Skunk* takes vacationists to their cabins, boys to one of three nearby camps, and fishermen to the famous Noyo River. Miles from any automobile road, the Noyo follows the rails for thirty-one miles and fishermen hop aboard to scout the best pools. Whenever they give the word, the *Skunk* stops to let them off, then picks them up at the end of the day. They have only to put a piece of white paper on the tracks and continue with their casting. The *Skunk* calls them in with a sharp whistle.

Operated by the California Western Railroad & Navigation Company of Fort Bragg, the *Skunk* looks like a moving van on wheels, or the result of an unfortunate marriage between a Mack Truck and a baggage car. It runs over a historic route laid out through virgin forests in Paul Bunyan fashion by men who were making fortunes in lumber fifty years ago. Flat cars piled high with giant logs still roll over the tortuous roadbed several times a day; but the *Skunk* provides the only transportation for passengers and cargo.

During the greater part of the year it makes trips twice a day. But come summer, the *Skunk* ups its schedule to four round trips.

Its antecedents were small and mighty. Forty years ago, hearty travelers took their chances with a Winton, converted to iron wheels, which carried six. During the early 1900's—and before the railroad recognized bus travel—an engine pulled a baggage car and two day coaches over the route. At one time, doughnuts and coffee were served to the passengers.

But 1925 called for reconversion, and a Bulldog Mack was changed suddenly into a passenger-cargo train. So it was that the *Skunk* came into existence, a bright yellow vehicle complete with whistle, bell and a wood-burning stove. The hybrid made its first trip in November, 1925, burning gasoline as fuel. One whiff and the passengers gave it the name that has clung for twenty years, in spite of straight-faced efforts by the California Western.

Number 80, the original *Skunk*, still makes the trip in emergencies; but a Diesel-burning job known as Number 100 recently took over the greater number of schedules. It's not as picturesque as Number 80, yet it represents both progress and a certain important saving in cost. A round trip between Fort Bragg and Willits costs $2.98. The train leaves Fort Bragg daily at 10 a.m., arriving at Willits at 12:01 p.m.; returning, it pulls out at 2:05 p.m., rolling into its home terminal at 4 p.m.

NUMBER 100 rounding one of a hundred bends in the 41-mile right-of-way circuiting redwood stumps atop the banks of the blue-green waters of Noyo River. Year-round schedule includes two roundtrips daily, four during summer months

The run between Fort Bragg and Willits is forty miles, but the length is misleading. Only one mile of the forty is straight track. The rest is composed of fancy loops and circles round the aged trees of the redwood forest.

WHEN the line was built for logging, track-layers found it easier to curve around a stump than to remove it. They planned to abandon the road as soon as the trees were cut, so the line of least resistance prevailed. It was easier to run the rails by Gin-Poke Pete's cabin, for instance, than to lay out a smooth roadbed. The result is an ambling roadway that wanders along in corkscrews and scallops, cresting a range into the foothills of Willits.

California Western describes the run as the "most scenic line west of Colorado. Not as long, but just as wide, as any of the big trunk lines." Passengers wise to the *Skunk* grit their teeth and hang on. For it's a rough ride, with as much up and down variance as sidewise sway.

First rails of the road were laid in 1900, to cart logs for the Fort Bragg mill. At first it stretched three miles, then as the timber was cut back, it was extended up the Noyo River canyon. "First stop on the line was a place called Hay Shed," according to Claude A. King, train dispatcher who started working for California Western in 1919. "There they refueled the ox teams. Ranch, farther along, had a slaughter house to provide meat for the crews. The end of the line crept on through the forest and at Alpine, nearly halfway to Willits, a city sprung up.

"A few timbers still remain of the famous Alpine Tavern, terminus for stages which came in from Willits. They had a tough time navigating the steep hill, especially in the winter time, their motto being: 'First-class passengers ride, sec-

ond-class passengers walk, third-class passengers get out and push.' "

Northspur—now the main settlement on the line—still has several houses, although its stores and post office are gone. Next stop was Irmulco, a name coined from the Irvine Muir Lumber Company, which provided a mill, store, post office and school marm. The line finally reached twenty-nine miles to Soda Spring. The stage line moved headquarters from Alpine to the end of the road and tickets still were sold in three classes. It was at this point, in 1912, that the backers suddenly decided that the logging tracks were a railroad and : ight as well continue into Willits to connect with the main line.

Living up to its history, the *Skunk* today resembles a traveling general store. It provides forest-loving residents with all the necessities—and amusement as well.

Shorter than a streetcar, the *Skunk* has a baggage compartment in the front and seats for passengers in the rear, a door dividing the two sections. The conductor —who also serves as railway mail clerk, ticket agent, freight handler, milkman and paper boy—keeps a wood-burning stove hot during brisk mornings. Smoke pouring from a chimney forms a feathery trail down the canyon, giving the train the appearance of a well-ordered house on wheels.

The men who work for California Western are old-time railroadmen in service and tradition. A. T. Nelson, the general manager, has been with the line since 1929; Superintendent F. L. Hanson, since 1905. Conductor Joe C. Silva started the same year and was made conductor in 1906. During his forty years with the *Skunk,* he has seen its right-of-way cut deeper and deeper into the forest. John Galliani started out as engineer in 1919.

Galliani has coaxed the *Skunk* over the

THE *SKUNK* herself. Progeny of a Mack truck and a baggage car, Number 80 carried freight and passengers for twenty years before the Diesel railcar took over regular running

HIZZONER answers Conductor Joe Silva's mail call, as the *Skunk* delivers newspapers, mail and supplies to backwoods residents. John E. Balke, known as the Mayor of Manville, built his home a year after his retirement as San Francisco streetcar conductor

same rails more than 15,000 times, and has a fresh outlook for each trip. Hardly a run goes by that he doen't have to chase cattle and sheep from the tracks, occasionally a deer. Buzzards insolently lift their heads and fly across the right-of-way. One dog, hopeful that his family will return, meets the train every trip. There are a couple of trips Galliani remembers, like the night he and Silva got a call from down the line that an expectant mother was in a bad way. They had to rush her to a doctor.

While Galliani got on the phone, Silva and another trainman warmed up a motor bug used by the section crew and scooted down the tracks. They loaded the woman on the vibrating bug and tore down the mountainside into Willits. They made it into the station with a minute or so to spare, the roughest run in the road's history. By that minute or so, however, they missed having a fine, healthy boy born on a motor bug. It's because of happenings like these that the residents regard the *Skunk* as a life line.

Jack Cummings, a retired veteran conductor, was with Galliani on his run with the grunting corpse. A coffin had been loaded on the *Skunk* for a night run into Willits. The baggage car, where the engineer sits, was filled with cargo; out of respect for the dead, the coffin rode alone, braced against Galliani. It was a windy night, and swirling fog hid the familiar landmarks of the canyon. Then as the train lumbered through a tunnel Galliani heard a groaning noise. The first couple of times the engineer ignored the sound. He was afraid to think what it might be.

Galliani had the horrible notion that the man mightn't be dead, or that perhaps he had come back to life! When another rumble swelled through the car, he threw on the brakes and put a tentative ear on the coffin. All was silent. He started the *Skunk* again, and again came the weird grumble. While he stopped to listen, Cummings, who had been in the passenger section, rushed in to see what was happening. These abrupt stops were not marked on the timecard.

The engineer was ashamed to mention his fears. Galliani just shook his head and didn't answer. So for two hours he drove a groaning coffin through the night, his throat dry, his eyes glued to the road. Later Galliani helped unload the coffin, while sweat poured down his face. He went back then for the rest of the cargo, relieved that the trip was over.

There, buried under the baggage, Galliani found the cause of the noise: a pig loaded without Galliani's knowledge. The engineer hurled the crate out of the train. When it landed, it broke and the pig scampered through the night. The angry epithets the engineer hurled at the vanishing pig accounted no doubt for his down-the-track record.

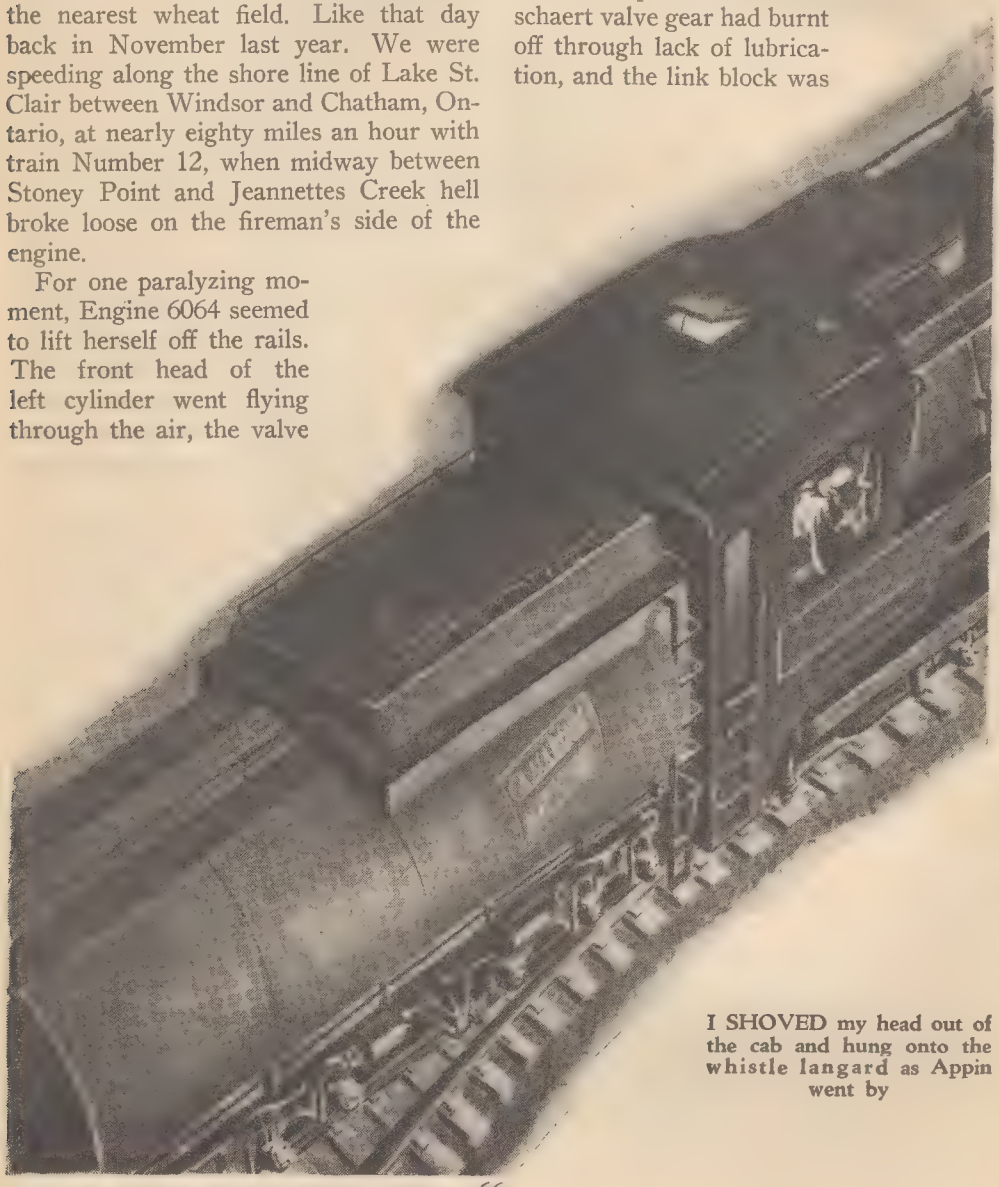
There's a morale to the story. Galliani spent the night trying to catch up with the pig. He did.

HERDING SHEEP—off California Western's trackage—is a necessary knowhow of ***Skunk*** engineers. John Galliani's whistling dispersed this flock as his train kept its 25-mile-an-hour pace

Running Blind

IT'S not difficult to understand why the average railroader and business man prefers to have his sons attend college and enter one of the professions rather than go railroading. I've thought about it a lot—especially at times when I've felt the engine under me leap from the rails, as if determined to pull a quick switch to the nearest wheat field. Like that day back in November last year. We were speeding along the shore line of Lake St. Clair between Windsor and Chatham, Ontario, at nearly eighty miles an hour with train Number 12, when midway between Stoney Point and Jeannettes Creek hell broke loose on the fireman's side of the engine.

For one paralyzing moment, Engine 6064 seemed to lift herself off the rails. The front head of the left cylinder went flying through the air, the valve motion snapped at connections, and the brakes shot into emergency, as pieces of train and signal pipe flew over the smokebox. Seconds later, Number 12 came to a shuddering stop and, with a feeling of apprehension, I clambered down the cab ladder for a looksee. The link block pins of the Walschaert valve gear had burnt off through lack of lubrication, and the link block was



I SHOVED my head out of the cab and hung onto the whistle langard as Appin went by

By
WILLIAM J. PARRY

lying in the bottom of its slot. Conductor Harry Fournier hustled up, took a gander at the distorted valve gear and then got busy with the telephone set, trying to get in touch with the train dispatcher.

A raw wind blowing in from Lake St. Clair chilled us to the bone. The flagman looking far from happy ambled off with his flagging equipment. Before very long, a crowd of shivering passengers grouped around the locomotive, but I was far too busy plugging the broken train and signal pipes to answer questions. I was too busy to inquire what was wrong, when I noticed the conductor shove the emergency telephone set back in the baggage car and hop the section car which had rolled up on the westbound track.

While the fireman and I worked with coal pick, wrenches and chisels, to disconnect the broken parts, the section car disappeared around the curve in the general direction of Jeannettes Creek station with all hands pumping. Since Fournier had a good two miles to pump that car against a stiff wind, I for one didn't envy them their ride.

As we were returning to our back-breaking job of disconnecting the valve gear, our uninvited guests disappeared one by one, back to the warmth of the coaches. Later, when those passengers read in their favorite newspaper about a mishap on a railroad and thought about the engine crew, they would no doubt have us in mind. But as far as the crew went this was but one more demonstration of what makes railroading a tough job.

Modern design hasn't made an engine foolproof; it had just changed the prob-

lems. What has definitely modified the engine crew's work is the improved automatic stoker, exhaust steam injector, cut-off control gages, power reverse gears, and some few other developments. Most important, the iron fireman has abolished the heart-breaking, back-straining task of handfiring locomotives; but stoker failures are not uncommon. On one occasion, the stoker conveyor on Engine 6404 screw quit as Number 12 was passing Belle River, seventeen miles from Windsor. No amount of reversing the screw could move the obstruction. So as the steam pressure fell rapidly, Fireman Johnny Mulholland reluctantly grabbed the scoop.

Now it's no mean job to handfire a modern locomotive. Johnny had only recently graduated from a Diesel switch engine and his muscles were still soft. Fortunately, the 6400-class engines have the old-type standard stoker, so the cover was unscrewed and lifted, held in place by the coal pick. The coal was then dumped onto the distributing plate and the jet pressure upped to blow the coal to all parts of the firebed. This in turn meant continuous shoveling on the deck of a speeding locomotive, which had a scheduled running time of two hours and fourteen minutes for the one hundred and ten miles between Windsor and London, including five stops and four speed restrictions. Before long, the sweat was pouring down Johnny's grimy features.

Taking turns at the handfiring chore, we managed to navigate the twenty miles to Prairie siding, where we dug a knuckle pin out of the conveyor and put the iron fireman to work again. Evidently, someone cleaning up scrap around Windsor Yard had tossed the knuckle up on a car of O.C.S. coal. From there, it had been dumped into the coal chutes, and then out into the tender of the 6404. Still we arrived at Chatham only seven minutes off the card. Had the crew not pitched in, this mishap might have caused a serious delay.

BUT to return to our disabled train near Jeannettes Creek. While the patrons reclined in the air-conditioned coaches, growling at the delay, we prepared the 6064 so that another engine could move the stalled train to the siding, shove the disabled engine onto the spur and proceed with train Number 12 to London. The engine arriving to pick up our train was a light 5500-class Pacific type, handfired. Years ago, these engines were the old two-spots, saturated steam engines with the old Stephenson motion. Later they were superheated and equipped with the Walschaert valve gear; before long, they will be headed for the scrap pile.

The light Pacific was coupled on ahead of the disabled 6064 and we proceeded to Jeannettes Creek. Here the two engines were reversed and the two firemen went into a huddle.

Fireman George H. Brown had come out with the Pacific. Evidently, the chore of handfiring the old mill to London did not appeal to George, who is fast approaching a pension. The firemen agreed to trade. Tommy Whitsell, my fireman, agreed to go on to London with Engineer Harry Wilson, while Brown stayed with me on the disabled engine.

Jeannettes Creek, as the name implies, is not what you'd call a metropolitan area. It is a French-Canadian settlement, devoted chiefly to cultivating fruit, onions, sugar beets and corn. During the summer months, the CNR handles a lot of perishable freight out of the village, stopping even crack passenger trains to pick up express refrigerator cars. But at the time of this delay, I was hardly interested in traffic statistics. I'd had no lunch with me and I was determined to find something to eat.

Leaving the fireman in charge of the engine, I trudged across the fields to the center of the village. Main Street boasted two stores, both resembling the oldtime general store in Henry Ford's Greenfield Village at Dearborn, Michigan. Quite a collection, but nothing of use to a hungry railroader. Compromising with a box of soda crackers, I headed for the station, the package under my arm.

Bob Henderson, the operator and agent, was expecting me. The St. Thomas dis-

patcher wanted to know how soon the 6064 could be made ready to proceed to London. I'd been hoping that orders would come through to back up to Windsor, because it was only thirty-two miles. The dispatcher, however, said the engine was wanted at London; so London it would be.

Despite all the efforts, the fireman and myself had not been able to take down the eccentric rod. Disconnecting the valve gear of a modern locomotive is another headache that the oldtimers didn't have to contend with. Castle nuts don't come loose with a couple of hefty wallops of the coal pick; in fact, we couldn't budge 'em with the section gang's sledge hammer and cold set. As the eccentric rod had to be taken down before the valve could be placed on center and the engine operated on one side, I told the dispatcher that fitters would have to be sent from Windsor with the tools required for the job.

While I cooled my heels in the office waiting for the dispatcher's reply, Bob Henderson suggested that I have dinner with him. Needless to say, the invitation was accepted. Bob was batching it at the Creek and he served up a meal that would do credit to any high-priced restaurant. Time passed pleasantly enough, as we chatted over bygone days. Finally Number 18, the glorified local, steamed into the station and departed. But no roundhouse mechanics unloaded from the baggage car.

Someone in Windsor had gotten the wires crossed. The workmen were standing on the station platform at Belle River with their bag of tools, while I stood on the platform at Jeannettes Creek, a welcoming committee of one.

What the dispatcher said when that dignitary learned that the fitters weren't proceeding according to plan had better not be recorded here. Railroaders have a language all their own; but it's not for family journals. What got in the dispatcher's hair was the knowledge that he'd have to stop one of his Wabash hotshots—and they were hot—at Belle River to pick up the two mechanics, and then stop at Jeannettes Creek to unload them.

A couple of hours later, the hotshot's caboose slowed down at the Creek. A bag of tools was unceremoniously tossed off the crummy's platform, followed in turn by the two hammer-and-chisel artists. These guys were fortunate that they weren't in the army. They'd have been dealt with at a summary court martial and removed from the seniority list.

Machinist Frank Baker and his helper went to work on the eccentric rod with their wrenches, and soon had it uncoupled. Next we placed the valve on center and were ready to start rolling once more with one engine. Backing up the siding to the station, I received orders to run extra to Glencoe. Baker and his mate came along as far as Chatham; they were heading back to Windsor on Number 83, the westbound local.

Arriving at Glencoe, I picked up orders to run extra from Glencoe to London. Glencoe is the divisional point and the end of double track. The Wabash specials branch off here for St. Thomas, Niagara Falls and Black Rock, over single track, while Canadian National trains head eastward over single track for London, Toronto and Montreal.

One hour later, I brought the 6064 to a stop on the ashpit at London. Engineer Wilson, who had brought Number 12 to London, was heading off the shop track for the station. He had a 6000-class engine to handle the return job—Number 105—leaving me to handle his light Pacific as far as Windsor. So ended that day.

THE next trip out on Number 12 proved far more nerve-wracking than the previous one. We met up with the railroader's worst enemy—fog. The fog had settled down on us at dawn; halfway through the morning, the weather was thicker than ever, so thick it was barely possible to see more than a few car lengths through the cotton-wool pall. Lake freighters, making their last trips of the season, lay at anchor in the Detroit River sounding their sirens mournfully. Meanwhile, switchmen in Windsor Yards were strug-

gling to marshall hotshot freights with the aid of yellow fusees.

The day before had been unusually warm for November. The sun's rays had saturated the earth with heat, which the ground gave off during the cooler hours of darkness in a mass of invisible vapor. Impelled slowly over the Detroit River and the lakes, the heat wave came in contact with the colder atmosphere over the water. As a result, dense masses of vapor hung over Windsor like a lifeless curtain.

Fog over the high iron takes a lot out of engine crews. In the clamor for speed and more speed, the traveling public is never fully aware of the problem crews face in operating their ponderous machines on a fast schedule when the visibility is zero. Other forms of transportation can suspend operations during abnormal weather conditions; but not the railroads. Come hell or high water railroads are expected to carry on.

So it was with misgivings as to the outcome of this trip, that I backed engine 5701 down the yards to couple on to my regular, Number 12. The 5701, a Hudson-type, had 80-inch drivers, a booster, boiler pressure of 275—all built for speed. She was also equipped with a clear vision window, a circular window revolving at high speed with a pipe outside the cab spraying a jet of air across it, thus cleaning off any moisture. This window allowed the engineer to see—the little distance he *could* pierce through the murk.

The 5700 class were designed to operate on the Toronto-Montreal runs, during the glorious days of 1931 when the Canadian systems won the world's speed championship, as a result of thrilling competition for the lush Toronto-Montreal traffic. These Hudsons were assigned to Number 6 eastbound, and Number 15 westbound between Toronto and Montreal. The timecard at that time was 360 minutes for the 336-mile run, including stops. The big Vanderbuilt tank was especially designed to make long runs between water-tank stops. Now, while Number 6 and 15 are important trains still—and employes' passes are not good on either—the running time is slower and they are pool trains.

This pooling system, between the Canadian National and Canadian Pacific, was the outcome of the report of the Duff Commission, set up by the R. B. Bennett government to inquire into the condition of the Canadian systems. The Canadian press had been vociferous in its demands to amalgamate the two and, in order to placate it, the Duff Commission was formed. The Commission, however, favored a period of cooperation between the railroads, rather than amalgamation; so Canadian National operates pool trains between Toronto and Montreal and the Canadian Pacific between Montreal and Quebec, Toronto and Ottawa. Between Toronto and Windsor the pair still compete with each other.

This will explain why customers are not likely to see a resumption of the speed war between the two Canadian roads. The tremendous expense of maintaining motive power and roadbed in first-class condition for this high speed does not warrant speed wars. And eighty miles an hour is fast enough for the writer. Especially in the spring of the year when the frost is leaving the roadbed and you have a 325-ton locomotive bouncing up and down under your feet.

But to return to Number 12 on that foggy November day. Engine 5701 rolled her into London on time at 11:59, a.m. The fog was showing no signs of lifting, and I wasn't looking forward to our run home with Number 105, which was to leave London at 9:25 p.m. Arriving on the ashpit, my fireman, Johnny Mulholland, and myself glanced anxiously at the engine ahead. She was the 5259, a heavy Pacific built in 1918, and the roughest-riding engine of that class. Our own 5701 was scheduled to go through to Toronto later on with Number 40 and a London crew. We had hoped to get on the return job, too, but no dice.

We booked off duty, and as we headed for the bunkroom, prayed for the sun to chase the fog away. Inside the bunkroom we found a cheery atmosphere. Formerly

a private residence, it was a comfortable place away from home. The smoking room was generally full about this time of day, while the kitchen reeked with the odors of cooking, as Toronto, Hamilton, Stratford, and Ft. Erie crews vied with one another in the culinary art.

PROMPTLY at nine o'clock, we left the shop track and proceeded cautiously along the main line to the station. The fog was worse, and it appeared we were in for a hectic night. As the switchtender bent the iron for the station tracks, he shouted that Number 5 was twenty minutes late.

I backed the 5259 on to Track 4 and coupled to the baggage car, while waiting the arrival of the Montreal-Chicago train. We were to take the Detroit connection, while Number 5 was to leave on our block with the Chicago portion via Sarnia and Port Huron.

At last she rolled in, thirty minutes off the timecard. That wasn't unusual considering weather conditions. Yet the station platform became a beehive of activity, as mail and baggage was transferred and a switch engine grabbed the Detroit portion to shove it up on the baggage car before more time was lost.

Car knockers coupled the steam and air hoses; the air whistle peeped shrilly for the standing test of the air brakes. I set 'em up, then released, as the air whistle sounded once more. I glanced across the cab at Johnny who was poised on his seatbox, his hand on the stoker-steam valve. I closed the cylinder cocks. Then I waited expectantly for the whistle to proceed.

Suddenly, the shrill blast come-ahead echoed. Gripping the throttle, I moved it backward. Superheated steam flowed into the cylinders, then the drivers slipped, spinning madly for a moment until the sand ground beneath their flanges. The wheels took a firmer footing on the wet rails. With that the fastest scheduled train on the CNR was under way, headed for Windsor and Detroit.

I made a running test of the brake, and it took hold. This test was a check on the standing test, which showed only that the brakes responded. It gave me no indication as to whether my brake was quick or slow to act, and on a night like this we wanted to know just where we were at.

Number 5259 began the climb up the grade to Hyde Park with her load. The fog was so thick over the Thames River that the block signals might as well have been non-existent. But we topped the hill, and swung into the curve. The block signal here should have shown a yellow indication, signifiying that the operator at Komoka had the crossover switches lined up for the Longwood Sub-Division. In clear weather, the fireman would call the signal indication; but Johnny said nothing that night. We were both staring into a white void.

We passed under the block signal before I could see the sickly yellow light. The switches were lined for the crossover, and the 5259 was tearing downhill towards it at seventy miles an hour. The speed restriction through the crossover was twenty miles an hour. That and no more!

Leaning from the cab window with one hand clutching the handle of the brake valve, I peered vainly into the mist, watching for the next block signal—the mark to start braking the train for the crossover. It shot into view quite suddenly, and Johnny and I both caught the indication at the same time. The lower light was yellow; the top light, red. "Give it to her!" Johnny Mulholland yelled across the cab.

The brake valve handle went into service position, the sharp hiss of escaping air filled the cab and engine 5259 and her train were under control. I pulled her down to twenty, then kicked the brake shoes free as the red lights of the switches came into the headlight's beam and the operator flung us a highball. Threading the crossover Number 5259 started digging in for the climb to Mt. Brydges. With a running time of thirty-three minutes for the thirty miles to Glencoe—two hills to climb and three speed restrictions to observe—I had to keep after her. The first restriction was already behind us.

But there were others still ahead of us.

We crested the grade, barely scratching out running time, but I eased off the throttle. The 5259 was beginning to buck like a rodeo steer as she raced downhill to Longwood. The dust covers flew off the shaker rigging and, together with my tool box, were jitterbugging back and forth across the cab. The old Pacific was running faster than she was designed for; the cab was shaking to such an extent that I expected it to leave the frame any moment. And this isn't fiction, folks. It is railroading, as it is.

SOMEWHERE on the down grade, the back section of the grates worked open. Yet we were so intent upon picking up the block signal for the Michigan Central diamond at Appin, we fail to notice the drop in steam pressure. It was brought forcibly to my attention, when I pinched her up for the speed restriction of fifty miles an hour over the diamond. I had trouble releasing the brakes, so I glanced over at the clock. The 5259 had taken a chill; the air pressures had equalized.

I flashed my torch over the cab and located the trouble. We rammed the bar on to the offending shaker and jerked it back into place. Before long, steam pressure began to climb again. I shoved my head out of the cab, as Appin station went by, and held down the whistle lanyard. The Glencoe crossover was next.

The first road crossing glided backwards, a gray blur beneath the rocking cab. The next road crossing was the landmark to start braking for the crossover. It sprang suddenly into the headlight's beam, together with the yellow board marked "yard limits one mile." I eased the throttle and started braking. Seconds later, the headlight picked up the crossover switch lights. The 5259 swerved from single to double track and stopped at the station.

I glanced at my watch. The minute hand showed we had come out even with the timecard for the first lap. So far, everything was under control. Conductor Bill Hadden hustled out of the telegraph office with a thirty-one train order reading: "No 105 Eng 5259 run twenty 20 mins late Glencoe to Windsor." That order made the scheduled running time twenty minutes later than the timetable. Since we were already thirty minutes late, it was even money that with the help of old man fog we would be at least thirty minutes late into Windsor.

The conductor and brakeman swung themselves up the vestibule steps into the coaches, as Number 105 pulled away from the platform. The headlight boring through the darkness seemed to reach no farther than the smoke box, but the timetable schedules make no allowance for weather conditions, except in the cases of unsafe roadbed. The timecard for Number 105 gave thirty-seven minutes for the next thirty-six miles, with a speed restriction of fifteen miles an hour over the Pere Marquette crossing at Chatham Junction, twenty-five miles an hour over public road crossings through Chatham Yard, a stop for water, passengers and express to load.

In thirteen minutes we had hurtled through Newbury and Bothwell, and we were rocking down to Thamesville. The raucous blare of the whistle at the crossing blasted into the gloom. The clamor of metal against metal, as rod bushings and worn driving boxes set up a terrific din, the sway and sudden drop, as the engine hit one soft spot after another—all took their toll on the engine crew's systems, explaining why engineers grow old before their time. I was beginning to wonder just how much punishment my kidneys could take from the jolting cab, when the train brakes went into emergency.

Dust came swirling up through the holes in the cab deck around the air pipes. The constant blowing of escaped air warned me that a pipe on the engine had broken loose from its moorings. I climbed stiffly down the gangway, flashed the beam of my flashlight over the distributing valve to discover the supply pipe was broken. The cut-out cock was quickly closed. Before Brakeman Lacey could get out with his lanterns, I had whistled "ready to proceed."

AGAIN we started for Chatham, this time minus the engine brake. The loss of braking power on the locomotive put me in a tough spot and I approached the Pere Marquette interlocking plant at Chatham Junction cautiously. In clear weather, the engine crew could see the signals for a long distance off, but that night it was a different story. There'd be another casualty report to make out upon arrival as well as a request to "please explain the cause of your delay."

There were no block signals on this pike, so engine crews ran their trains by instinct and landmarks. Public road crossings were good landmarks in a dense fog, so at the first crossing approaching Chatham, I reduced speed to a crawl. We would be right under the semaphore before we could make out the light indication, and I was taking no chances. We rolled slowly past the distant semaphore. Since the signal was always set at "caution," we moved slowly up to the home signal where the lamp was green.

Easing to a stop at the Chatham water plug, Johnny Mulholland grabbed a couple of feet of aqua pura, the express handlers loaded the express car while mail was unloaded, and I gave the old mill a hurried going-over. Everything appeared to be hanging on so we pulled away for Windsor thirty-five minutes late, having dropped five when fixing the broken air pipe. We had forty-six miles to cover in fifty minutes, with a speed restriction of fifty miles an hour over the Canadian Pacific crossing three miles west of Chatham and a station stop at Walkerville, one mile east of Windsor. The 5259 had to do some fancy stepping. I groaned when the headlight bulb faded out as we were pounding by Prairie Siding. It meant I had to stop.

Reaching above his seatbox for the container, Johnny grabbed the spare bulb and we both scrambled down the gangway, heading for the front end. The hind man of the Wabash hotshot, backed over on the eastbound to clear Number 105, was waving highballs frantically; but we couldn't proceed without a headlight. Another five minutes were shot before we got going. My one consoling thought, as we got under way again, was that one casualty report would cover both delays, saving some pen scratching.

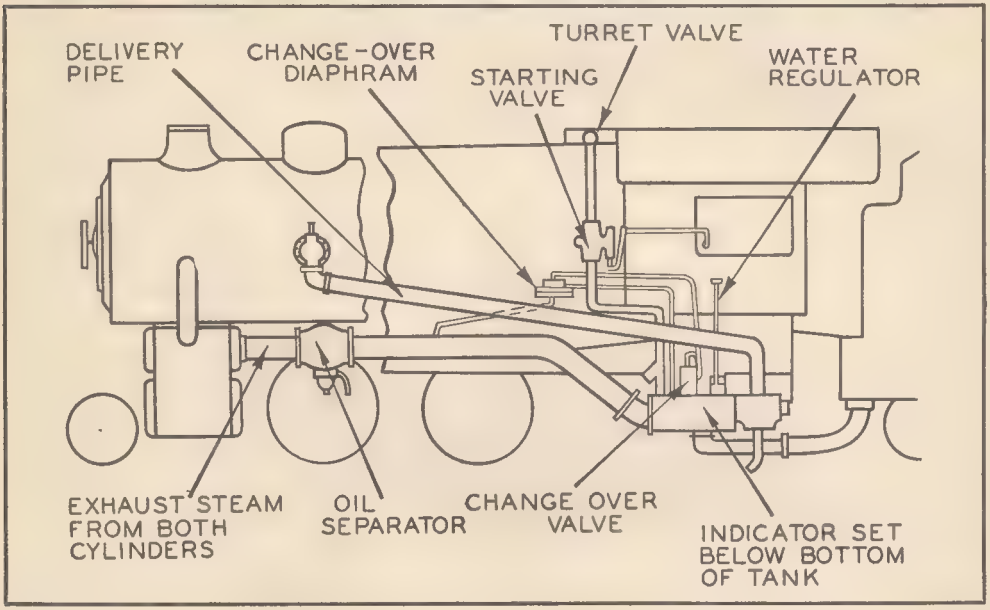
With two strikes on us, we hadn't a Chinaman's chance of catching up with the run-late order. The thirty-seven miles between Chatham and Tecumseh called for a running time of thirty-four minutes. Donald M. Steffee failed to give Number 105 a tumble in his *Annual Speed Survey* last April but we deserve honorable mention at least. The Canadian National train listed in the "less than fifty mile" column is Number 17, the *Inter-City* between Strathroy and Wyoming, rated at 25.3 miles in 24 minutes. Train 105 is slightly faster, being allowed a top speed of eighty. So it would appear, that if 105 sported a unique sobriquet, such as *The Galloping Coyote,* we might rate a spot in the *Annual Speed Survey.*

Since we owned the high iron from Prairie siding to Windsor, I opened up the old 5259 and let her gallop. The timecard said eight minutes for the 9.17 miles Belle River to Tecumseh, and we came out with an even break. Another six miles slid backward beneath the flying wheels. I eased the throttle for the speed restriction of twenty-five through the Walkerville-Windsor yards. Finally we rolled to our terminal stop, tired and dirty, and not in the best of humor.

Conductor Bill Hadden came along with a request from the dispatcher for the delays enroute. Bill's a good scout. He never put any delays up to the engine that didn't belong, still the trainsheet didn't look good. The DS wanted the horrible details, so I gave the conductor the box score, and then it was relayed to the DS with the engine crew's compliments.

For some time, after our arrival, Windsor Station resembled a madhouse, as patrons scrambled about waving their arms wildly for taxis. Some gave the engine and her crew a cursory glance; but the majority were too intent upon getting home to notice the men in the cab. Yet I suppose if we were a couple of shavetails, we would at least rate a salute.

Light of the Lantern



INJECTOR ECONOMY

WITH the cost of coal soaring to new highs, our railroads are making a vigorous fuel conservation drive. To fully appreciate how important this countermeasure is, consider that rail carriers use nearly one fourth of all the bituminous produced in the United States. A single railroad—the Baltimore & Ohio—burned six and one half million tons in its locomotive fireboxes last year, shelling out a cool twenty million dollars, or fifteen percent of its total transportation expenses, for this black mountain of potential horsepower. In 1947 the B&O's coal bill is due to jump another five million or more, with no sign of a break in the dizzy spiral.

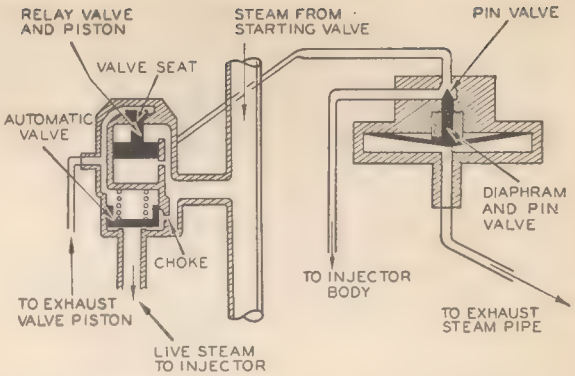
In view of such expenditures the eight percent efficiency of modern reciprocating locomotives is a thorn in the side of mechancal departments. They know, too well, that even that low figure has been achieved only by persistent alterations and additions to what is basically a simple and powerful but vastly wasteful machine. Long ago they recognized that a focal point of thermal inefficiency was the exhaust at the stack. This could not be entirely eliminated, for a steady jet of steam is necessary to create the draft for proper combustion. However, it was possible to utilize a portion of the heat in this waste steam to pre-heat the water being fed into the boiler.

Feedwater heaters used in stationary plants accomplished a saving of one percent in fuel consumed for every ten degrees of water temperature rise between tank and boiler check (the valve through which the liquid enters the boiler). Why not pre-heat the water entering a locomotive boiler in a similar fashion?

It was true that the conventional injector, employing the velocity of live steam to drive the fluid past the check valve, becomes, in doing so, a feedwater heater, itself. Taking water from the tender

reservoir at a temperature of let us say 60 degrees, it delivers it to the boiler at approximately 165 degrees. However, there is no economy in this for the steam used for the heating comes direcly from the boiler, where coal has been burned to generate it.

The feedwater heater, on the other hand, not only utilizes exhaust steam, but boosts the temperature to 200 degrees and more. In addition, this steam condenses on contact with the water from the tank, effecting a further saving. Incentives of this kind could hardly be overlooked and while certain locomotive characteristics made the problem difficult, engineers were eventually successful in producing trouble-free and effective designs.

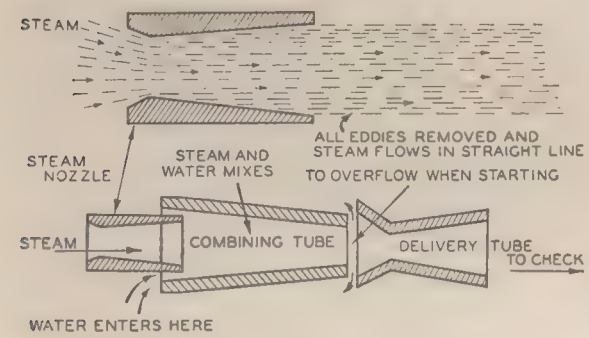


PRINCIPLE of exhaust steam injector change-over

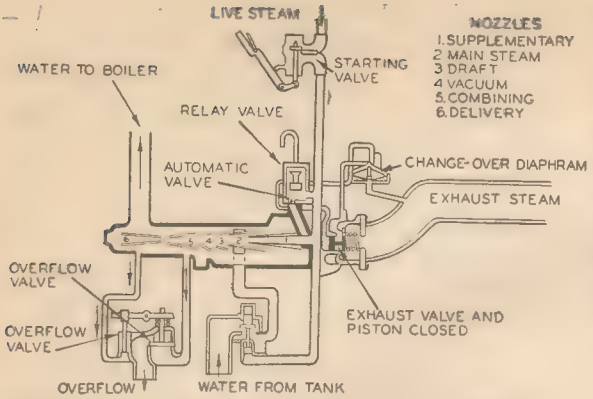
Unfortunately, different operating conditions affect the performance of the feedwater heater greatly. On mountain roads where schedules call for sustained running, it is indispensable. Yet the same piece of apparatus may be detrimental where the track is rolling, with the hogger continually readjusting his throttle. In the latter case a light or closed throttle deprives the feedwater heater of exhaust steam and cold water is forced into the boiler where, because of its heavier weight, it immediately flows to the mudring and about the firebox sheets, causing staybolt damage and breakage as well as injury to sheets and flues. Resulting high maintenance costs nullify the savings obtained when the throttle is open.

Many roads have attempted to remedy this condition by issuing instructions to engine crews to shut off the feedwater heater while drifting, and apply the injector. Such demands looked reasonable enough on paper, but today's enginemen, with their heavy trains and fast schedules, have little time to thread off pumps and pull on injectors. Some systems met the problem by adopting the drifting control valve, which slows up the action of the pump when the throttle is closed, reducing the rate of cold water flow. From that, it was a natural step to reason that if water could be forced into a boiler by live steam pressure, why couldn't exhaust steam be used, and the whole device designed so that it would shift back and forth according to throttle adjustments? Companies building injectors tackled the problem and developed the "exhaust steam injector," which successfully performs this function.

To see just how this injector works let's first examine the basic principle involved. The secret of successful operation lies in the shape of the tubes. In the drawing at the left we see that their interiors are tapered in such a way that steam is allowed to flow from a large area to a restricted one and then released forward in straight, parallel lines with no turbulence or swirling action.



THESE three nozzles are common to all injectors



POSITION of exhaust steam injector when working on live steam

This steam, while confined in the boiler under heat, had built up pressure and a high temperature, but it was dormant, save for boiling action. But the opening of the valve into the tube gave it an initial velocity of approximately five hundred feet per second. This velocity increased as the tube diameter decreased, reaching fifteen hundred feet a second at the choke, and 3800 feet a second at the point where the inside diameter expands. At the same time there was a decrease in pressure to that of the atmosphere. It is steam velocity and not pressure, then, which when mixed with water from the tender drives the fluid into the boiler. A further point to remember is that the velocity of steam through a nozzle is about the same, regardless of the initial pressure. The only difference is that the higher the pressure the larger the amount of flow.

While the steam nozzle which we have just described in the very heart of the injector, there are two other tubes incorporated in its design. The second, or *combining tube,* is where the water mixes with the steam, and the third is the *delivery tube,* where the liquid is forced into the boiler. Between these latter two tubes water is released to the ground through an overflow passage during priming or starting. When high velocity is obtained the overflow is closed and the water sent on to the check.

Now to progress to the exhaust steam injector type: Here we have a combination of a simple injector (when working on live steam) and an open feedwater heater (when using exhaust steam). It is of the *non-lifting* type, which means that it is set below the level of the water supply in the tank, from which it is fed by gravity. As the throttle is opened or closed it shifts from one type of operation to the other of its own accord with no more attention from the engine crews than an ordinary injector.

Like most non-lifting injectors a starting valve is used to control live steam flow to the tubes. Also extending back from the exhaust passages of the main cylinders is a large pipe for the exhaust steam. In addition to this there are a change-over diaphragm and a change-valve.

Let us consider the live-steam performance first, referring to our third drawing. In starting the injector, steam is allowed to flow from the turret through tube number 1, or the *supplementary tube.* From there it mixes with water in a combining and delivery tube and flows on into the boiler. The water is shut off from the tubes by a valve which only opens when steam pressure builds up under it as the starting valve is opened. This is necessary to prevent gravity-fed water from draining the tank when the injector is not working.

As in the case of all such mechanisms, water primes out of the overflow at starting. But as the speed of flow increases pressure accumulates at the overflow valve piston, closing the valve against the tension of a spring and forcing the water to the boiler.

Something else happens during this live-steam operation. You will note that the change-over valve is divided into a relay valve and an automatic valve. The latter allows live steam to flow through a choke into the injector body where it mixes with the water, heating it in much the same fashion as though exhaust steam were present.

Referring to the last drawing we see

a cross-section of the change-over apparatus which goes into action when the throttle is opened. The operation of the relay valve and diaphragm are as follows: In live steam operation, steam from the starting valve flows through ports to both the top and bottom of the relay valve piston. The exposed area at the bottom of the piston is greater than that on top, due to the valve stem. To prevent the piston from rising, then, a hole is drilled through the walls below it, with a pipe connection to the top of the pin valve. This pin valve is kept unseated by a spring, allowing the steam to flow on to the injector body. At the same time steam also flows through the choke at the base of the relay valve, unseating the automatic valve and allowing the vapor to flow on into the exhaust steam part of the injector. The choke restricts the flow raising its pressure to about five pounds, or the exhaust steam pressure. Thus when working on live steam the water is actually being heated by steam from the boiler.

But when exhaust steam leaving the cylinders builds up in the big pipe leading to the injector, it gets under the diaphragm, compressing the spring and closing the pin valve. This stoppage allows pressure to build up under the relay valve piston, forcing it upward and unseating it. Steam then flows down through a newly freed passage, opens the exhaust valve by pressure on its piston, and allows the full head of exhaust steam to enter the injector and mix with the water. At the same time the automatic valve shuts off as a result of steam pressure building up on top of it, blocking the further use of live steam. In the supplementary tube there is always a flow of steam in both positions for an unduly complicated mechanism would be needed to shut it off in exhaust position.

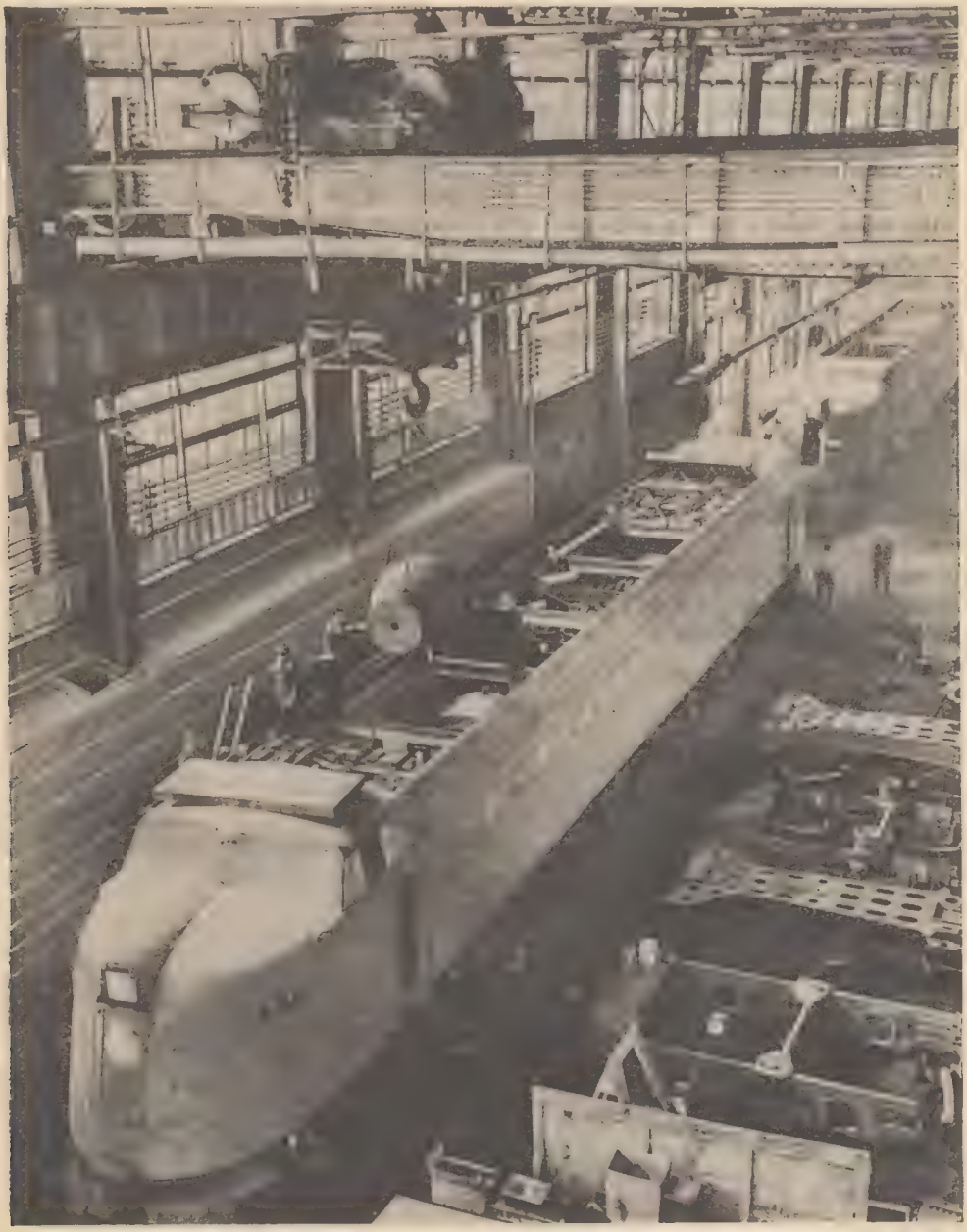
Like all appliances the exhaust steam injector incorporates many refinements of design. There is an oil separator in the exhaust steam line; a tell tale device in the cab to warn of injector breaks and spilling water; and a cluster of gages registering exhaust and overflow pressures.

The latest models have another adjunct known as the exhaust pressure regulator. For in the older injectors exhaust pressure kept increasing as the engineer dropped his lever into the corner. In order to maintain a constant ratio of water to steam, the fireman had to keep readjusting the water valve. Now this is automatically controlled by the exhaust pressure regulator which is a bellows and a butterfly valve, working together. This permits the greatest amount of exhaust steam the injector will condense to pass through the nozzles.

Photo by H. E. Strothard, Springhill, N. S., Canada

LOCOMOTIVES which operate under severe winter conditions are usually equipped with lifting injectors, which can be better protected from the elements

G.E. BUILDS THE WORLD'S BIGGEST JUICE JACKS



UNLIKE the neighboring Milwaukee Road, which sends its *Olympian Hiawatha* dieseling over 656 miles of electrified trackage, Great Northern reaffirmed its faith in the future of conventional electric power, recently, when it accepted delivery of two single-cab engines for use between Wenatchee and Skykomish, Wash. (73 miles), in the heart of the Cascade Mountains. Measuring 101 feet between coupler faces, the 5000 horsepower giants are the largest and most powerful white-coal powered units ever constructed, and from the standpoint of design represent the highest perfection, to date, of the motor-generator type. In the photo above, one of the four 16,000-pound traction generators is shown being lowered into position at General Electric's Erie, Pa. plant

ONE of the completed engines ready for delivery to the Big-G. She develops a starting tractive effort of 119,000 pounds

THE INFORMATION BOOTH

Each month the Lantern Department prints answers to rail questions of general interest, submitted by our readers. We do not send replies by mail.

1

WHAT is the meaning of the large white star under the car number on many New York Central box cars, and of the white circle under the number on certain others?

A star under the car number denotes a former auto car (double-door box), used for exporting grain between Buffalo and Weehawken or Buffalo and Boston. The circle signifies a car exporting grain between Buffalo and Boston. When a star appears alongside the weight (tonnage of car), it means a restriction of weight; the car must not be overloaded.

2

A FRIEND told me that High Bridge, New Jersey, got its name from the Jersey Central's long, high bridge over the valley of the Raritan's South Branch. I have been to High Bridge, but unlike his discription, the railroad crosses the valley on a long fill or embankment, with the river and a road running through an insignificant culvert, unworthy of being called a bridge. Can you shed any light?

High Bridge, three miles east of Glen Gardner, scene of the wreck last August 18th, involving two road Diesel-powered freight trains, received its name from a $200,000 structure which the Central

Railroad built across the South Branch and the valley at this point in 1852. Thought to be good for many years, engineers soon discovered that its 1300-foot length worked against durability. It was filled at a cost of $500,000 with earth and stones, the river and a road running through a double-arch culvert. The reconstruction project took five years from its start in 1859. It is 112 feet from the railroad bed to the river.

3

HOW did the Hayes camel differ from the type designed by Ross Winans?

Winans engines were eight-wheel locomotives, all of the wheels being drivers. Samuel J. Hayes, Master of Machinery for the B&O from 1851 to 1856, designed an engine of the 4-6-0 wheel arrangement, which retained the camel-back form and many of the features of the Winans locomotives. Chief difference of the Hayes camel lay in its introduction of the leading truck.

4

HOW MANY PCC CARS are now in service on trolley lines in the United States?

At the close of 1946 there were approximately four-thousand PCC cars in service in cities, ranging in size from New York (seven-and-a-half-million population), to Johnstown (sixty-five thousand). Earl E. Kearns, manager of General Electric's urban transit division, recently stated that the electric surface car, far from disappearing from the American scene, is playing an important role in speeding urban movement of people, with possibilities as yet untried.

NEW YORK CENTRAL'S ambitious Mohawk River relocation project progresses at a rapid pace. Hazardous curve at Little Falls, N. Y., will soon be a thing of the past

Although this type of vehicle in 1946 amounted to only twenty-seven per cent of the total of all types of transit vehicles, it carried nine billion passengers, or nearly forty per cent of the nation's public transit riders. Mr. Kearns estimated that more than 7500 fast, streamlined trolley cars are needed in major cities of the United States, in addition to the four-thousand now in service, to help relieve present traffic congestion.

STEEL GRADES located at six foot intervals form bulkheads in new PRR boxcar protecting LCL shipments from damage

5

HOW DID the Pennsylvania Railroad reroute trains when their four main line tracks were blocked by the freight wreck at South Elizabeth Station, in New Jersey, last August?

Twenty through trains from the South and West were terminated at Trenton or Philadelphia during the tie-up, while many others, like the crack Broadway Limited, reached New York from three to five hours late after being detoured by way of the Reading's tracks from a point near the Pennsy's North Philadelphia Station to Plainfield Junction, where they were transfered to those of the Lehigh Valley, until their union with the PRR main line at Newark. A shuttle bus service was hastily improvised for travelers on locals running between Newark and Rahway. The Pennsy placed a fleet of forty-seven leased buses into service to bridge this gap on the railroad, synchronizing their arrivals and departures with those of local shuttle trains between New York and Newark, and between Rahway and Philadelphia, as nearly as possible. This service was operated for the benefit of those who could not reach their destinations by other means, but the railroad made every effort to persuade those who could to take other routes. In spite of all efforts to cope with the situation, commuting service was badly snarled. An estimated six-thousand persons who normally commute from north Jersey shore points on the Pennsylvania were forced to take the Jersey Central instead. This army of commuters poured into an already crowded Liberty Street Ferry Terminal, adding its burden to the Liberty Line's ferries, and CNJ officials were unable to estimate how many people their trains carried that night. Extra cars were added, and extra sections run, over the New York & Long Branch Route, greatly disrupting schedules. Shuttles also operated over the Pennsy branch between Rahway Junction, and the New York & Long Branch at Perth Amboy. The wreck oc-

Photo from H. G. Monroe

OLD C of G eight-wheeler rented by the Bowden Company for industrial hauling

curred near the South Elizabeth Station, at 4:50 a. m. The "clockers," the fast trains that normally leave Penn Station every hour on the hour for Philadelphia, carrying an average of five-hundred passengers each, were annulled all day until 7:00 p. m. Although hundreds of workmen labored under a broiling sun to clear away a jumble of twenty-three cars, the first of the four main line tracks was not cleared until 6:18 p. m. Another track was opened at 8 p. m., and the two remaining tracks made passable, and service restored, early the following morning.

An unusual feature of this wreck, which cost no lives, but yet was one of the most costly in the Pennsy's one-hundred-and-one-year history, was the triple occurence of the number "13". On the thirteenth of August, the thirteenth car of a forty-five car freight, Enola to Greenville Yard, developed a hot box, causing the derailment.

6

RECENTLY I saw a black and white post on a curved stretch of Erie main line with an "E" pointing skyward and above it a dash and a zero. Explain.

This is an elevation marker, for the guidance of track workers, used on curves and at the point where curves meet the tangent track. When they read E-0″ at the ends of curves it means that one rail is not elevated above the other. Other signs may read E-1″, E-2″, E-3″, or E-4, as the curve banks, meaning that one rail is that many inches higher than the other.

7

FURNISH information on the Baltimore & Ohio's railcar 6044 which was recently modernized at the Mt. Clare Shops.

Conversion of this gas-electric motor to Diesel power was completed, early this year, and the body was streamlined. With trailer car 6193, this unit is now in service on the 53.2-mile run between Baltimore and Singerly, Maryland.

8

WHAT was the Texas & Pacific's object in placing two boosters on the trailing truck of Texas Type 632?

This was done in order to utilize the engine's boiler horsepower more fully and get higher tonnage at low speed. The existing Franklin Type C-2 booster was replaced by two Type E high speed boosters. The second was connected to the front wheels of the trailing truck, thus increasing locomotive tractive effort by the tractive effort inherent in another booster. Even then the boiler would not be taxed to its full capacity. As the amount of steam which the boiler would produce at low speed was dependent upon the draft, a Franklin exhaust check valve was installed to take care of this exhaust steam and deliver it to the exhaust passages of the cylinder. The added draft obtained from this booster exhaust enabled the boiler to evaporate enough water to supply the extra booster. Installation of the second booster required cutting the trailer frame in two and moving the back trailer wheels backward in order to obtain required clearance between the trailer wheels.

9

RECENTLY *I saw a fifty-ton Texas & New Orleans steel boxcar, Number 54526, in the New York Central's 34th Street Freight Yard, over near 12th Avenue and Pier 74, North River. It carried a large yellow diamond on its side, between the road initials and number and the boxcar door. Along the four corners of the diamond, outside, in yellow letters, was the legend in Spanish:* Uso Exclusivo Entre Puntos Sud-Pac De Mexico Y Cdad De Mexico. *In black characters, inside the diamond were the words:* Devuelvase Al Sud-Pac De Mex. Cuando Vacio. *Please translate.*

The legend outside the diamond says: Use exclusively between Southern Pacific of Mexico and Mexico City points. In the diamond: Return to the Southern Pacific of Mexico when empty.

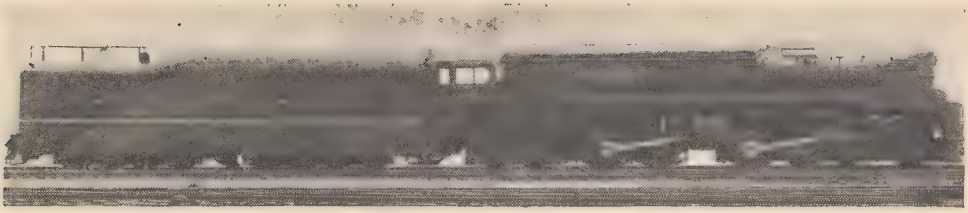
10

IN YOUR LAST ISSUE you showed a photo of a PRR road Diesel. How many are now in passenger service?

Fourteen, powering the *Broadway, Liberty, Gotham* and *Cincinnati* limiteds; *Pennsylvanian, Spirit of St. Louis,* and *Red Arrow.*

Print from Rail Photo Service, 305 Sherman Bldg., 93 Mass. Ave., Boston 15, Mass.

BALTIMORE & OHIO'S Diesel-powered merchandise 94 overtakes the 7606 in Keyser Yard



LOCOMOTIVE OF THE MONTH:

PRR's Modified T-1 Class

SINCE the two original T-1 Class locomotives, Nos. 6110 and 6111, went into Pennsylvania passenger service in 1942, the design has twice been modified. The first revisions, incorporated in all fifty locomotives built by Baldwin and the railroad following exhaustive testing of the two experimental engines included elimination of the large equalizing arms linking the spring rigging of the two groups of drivers, substitution of a new type of driving wheel center for the Baldwin disc-center type, narrowing of the running board aprons to permit greater accessibility of the running parts and a modification of the ship-prow, boiler-front cowling. The second and less drastic alterating of original characteristics was centered upon the pilot design which has been modified for the greater safety and convenience of engine and maintenance crews. It involves the application of side ladders to the running boards and a new after-cooler housing which has been narrowed to make room for the

steps. From the standpoint of appearance as well as utility, the last change has been decidedly for the better, giving the big duplex an appearance of greater height and tending to lay greater emphasis on the boiler front, which is logically the focal point of interest in any locomotive design.

PROFILE of original T-1's has undergone radical changes

NEW ladders from pilot to running boards, a concession to safety, give the big duplexes a more impressive look; shallow aprons focus greater attention on running gear

Specifications

Class	T-1
Numbers	5500-5524 (Bald.)
	5525-5549 (PRR)
Pressure	300
Cylinders	19¾x26 (4)
Drivers	80
Grate Area	92
Weight on Drivers	268,200
Tractive Effort	65,000
Weight, Engine	497,200
Weight, Tender	433,000
Capacity, Tender	
Coal	41
Water	19,500

BETWEEN our great mountain ranges, the Rockies and the Sierras, and stretching from Canada to our southern neighbor, Mexico, is a vast area of land. The *Silent Land* where time seems not to move at all. True, of late years tapes of concrete have been unrolled across its breadth, here and there. And steel threads, on which giant engines and their trains shuttle back and forth, have stitched the East to the West. But place all the tapes and all the threads side by side and they would scarcely measure a

The Silent Land

thousand feet of width in the thousand miles of desert length.

Turn your back on one of those arteries of travel and go but one short mile and you will find a place untouched and untrodden since the dawn of history. Where winds blow soundlessly, where the silence is so dense it has weight, where the sun bears down with violence by day or the stars regard you with impersonal indifference by night, where your soul shrivels in impotence and your ego dwindles to naught. That place is the *Silent Land,* the Great American Desert.

Yet on and across those shining threads that traverse the great desert, men work, live and have their existence—the railroaders of the transcontinentals. Have

By
WILLIAM F. KNAPKE

you been a passenger on some train that paused briefly at a desert siding, on which a long line of freight cars rested, the grimy caboose on one end and the great locomotive at the other? Perhaps you noticed a brakeman moving, seemingly idly, about those cars and wondered a bit about him—what did he do? how did he live—or was it living—on that sandy waste? Would you like to learn?

Let's make believe that *you* were that brakeman, that you lived a day of his life and a day of his trials. We'll choose an August night down where the rails run straight as a taut string for mile after mile; somewhere on that vast wasteland your train was taking siding. You stood on the rear steps of the caboose, gazing ahead to see how near the switchstand you were. Your eyes were bleary and half-closed from lack of sleep. The light of the switchlamp glowed red, a hazed glow as though seen through a fog—it dwindled to pinpoint size, as your sleep-drugged vision tried to focus on it. You closed your eyes to relieve the gritty feeling, you felt yourself falling, grabbed a handrail just in time, swore and rubbed tobacco saliva in the corner of one eye that the pain might keep you awake.

Then you got off and threw the switch, testing the lock a couple of times to make sure it was secure. You looked at the switchpoints extra carefully lest in your condition you might leave something essential undone; then you stumbled after the caboose that by then had come to a standstill. The conductor came out on the platform just as you arrived.

"Look out for sidewinders," he cautioned. "This is the kind of night they're moving about."

"Sidewinders, huh," you grunted, "if I see one of those stumpy-tailed rattlesnakes tonight, *I'll* bite *it*."

You wandered on along the side of your cars to give 'em an inspection and see they were running all right. The sides of the cars gave forth waves of heat as though loaded with some red-hot cargo. As you paused to look at a brake beam, something skittered from between your feet as though shot from a gun. You stared where the streak had been. "Vinagaroon," you muttered. "Gosh, one of those bugs can make an antelope look like it's standing still."

Looking ahead you saw a light beside the cars and knew the swing brakeman was waiting to walk to the head end with you. You noticed the stars, which in that clear, dustless atmosphere shone with tripled size and glory. Then the moon swam up from behind the dark fringe of mountains that marked the desert's distant edge, a moon that gleamed like a great pewter plate and whose rays lighted the desert with unearthly beauty. Yet it cast the shadows of the ironwood trees and mesquites onto the sand, like great blobs of ink, spattered by some Brobdignagian pen. So, weary and sleepy as you were, when the swingman said, "These nights are sure beauts," you were forced to admit grudgingly they were.

You plodded on to the head end where you found the engineer and fireman stretched out on the ground close beside the silent engine. Silent except for the measured throb of her air-pump and a gentle spewing from the low turned oil nozzle. You walked over to a pile of crossties, opposite the switchstand and found the head brakeman, a youngster, sound asleep on the pile. You regarded him pityingly.

"Kinda tough on a kid like him," you remarked to your partner. "Out on a job as tough as this one, where he can't get more'n two hours sleep outta twenty-four."

"Yeah," answered the swingman, ironically. "I suppose you had all the sleep you knew what to do with?"

"Well, if going to bed on a sheet that felt like a tin roof under a noonday sun, if tossing and turning, listening to the drone of an undersized fan that served no purpose except to sing me to sleep—and, brother, I didn't need a lullabye—until I became unconscious for a coupla hours is sleep, why yes, I had a dandy rest. I put in about two hours in that rat trap in the club house 'n then I crawled out 'n joined the gang in front of the beanery. Oh yes, I hadda lotta sleep—like hell I did."

THE SWINGMAN grinned sympathetically. "We've had ten night runs straight now 'n that's just nine too many in a row for me. I don't mind taking my share of 'em but by grab I don't want all of 'em. About two more of 'em after this one 'n I'll be from here."

The swingman spat disgustedly. As the two of you sat on the ties, talking of other places you had worked where the thermometer would register below zero and the snow drifted deep, of men you each had worked with here and there, talking principally to keep awake while you gazed at the myriad of stars dotting the eastern skies, a new star sprang into being. Presently it veered slightly and you guessed it was the headlight of a train you were to meet at the siding where your train now lay. The star disappeared as, with his train into clear, its engineer switched off the headlight. But again, a brighter and swifter light took its place. A light, meteor-like in its swift approach. You knew that light to be the varnish, Number 9, the fastest passenger train on the timetable.

As Number 9 neared the switch, its wheels churning a miniature earthquake and its stack tearing the air into a thousand thunderous shreds, the young head brakeman sprang up with a loud, startling yell. Then as Number 9 crashed over the switch points and sped onward, he subsided with a sheepish grin. "I dreamed I'd left the switch open and 9 was heading into our train," he explained.

A few minutes later, the freight train you were waiting for whistled at the mileboard. Then, as its engine crew shouted the usual insults with which the head end of one train greets another, the train rolled past, an unfurling panorama of lights and shadows. Some boxcars, some oil tanks, more boxes, here and there the yellow sides of a refrigerator car; from a boxcar with an open door that had slats nailed across it came the mournful *mo-o-o* of a cow. "Zulu," you thought. "Wonder where he's bound?" Then more high ones, a few gondolas and flat cars and finally the caboose, with its cheery red markers and a voice from the cupola yelling something you couldn't quite catch but nevertheless knew wasn't complimentary to you and your ancestors. You yelled back the most libelous name you could think of, too, even though you knew he couldn't hear you.

Suddenly you three brakemen standing near the switch were illuminated with a flood of light as your engineer switched on his headlight. Two blasts of the whistle and from away back at the caboose a light appeared. High it soared and then a downward sweep. *Highball* was its message. Your engine snorted gently, then louder and impatiently as the cars resisted her urge.

At last she barked angrily and surged against the opposing weight as the wheels began a reluctant roll. Slowly the train crept onto the main track while the swingman on one side of the cars and you on the opposite surveyed the trucks and wheels of the passing cars by the light of your lanterns, looking for any possible defects. Then the caboose drew out. You closed the switch, ran after and caught the rear steps and gave the head end a *take 'em away* sign. Back from the 'gine floated two long blasts of the whistle. The tempo of the rolling wheels quickened, and the clicks of the rail joints came faster and faster as you steadily gained your rightful pace.

You climbed into the cupola, filled and lit your pipe, then gazed at the desert sands, silvery and shining from the light of that glorious moon, as they slid by under the window. You idly watched the swingman's light as he walked over the top of the train toward the head end. The running boards of the cars stretched away as a lighted path in the moonlight. Now and then there came a reflected gleam of light, sometimes amber, sometimes white from some discarded bottle thrown beside the track. An ironwood tree, stunted and aged, seemed to float by. Mesquites, eerie in the phantom light, joined the ranks of the parade you reviewed.

You glanced across the cupola at your conductor who was sitting motionless and

silent. You grinned to yourself. "The old boy's dropped off to sleep." But, outlined against the light, a curl of smoke rose from the old boy's pipe. Fooled you again, it seemed to say.

Your own eyes were getting heavier, so you climbed down and bathed your face with ice water. Going out on back platform, you knelt with your nose just above the coupler and took several long-drawn sniffs to see if you could detect any odor of a hotbox. You glanced along the sides of the train. No yellow flare showed to tell you of a blazing hotbox or shower of sparks or boiling dust, that would denote a brakebeam dragging. "Everything running fine, thank Pete," you reported when you returned to cupola. The skipper made no reply; his gaze was fixed on the fringe of mountains that marked the northern edge of the desert. A dark cloud, plainly visible in the bright moonlight, hung over their tops and it was evident that cloud worried your conductor.

Presently he turned, "If we don't have a washed out roadbed in a few hours, I'll be badly fooled."

You were astonished, "Washout?" you queried. "What from? There isn't any rain and no sign of any."

"It doesn't need to rain down here," he explained. "If that cloud bursts, a wave of water two or three feet deep will sweep down across these tracks and, son, I've seen as much as four miles of track torn out in one hunk by one of those cloudbursts."

Again the skipper studied the ominous cloud; then he climbed down to his desk and swiftly wrote a message which he read to you. "Strong indications of cloudburst in mountains. Probably hit between Lava and Pumice sidings. Suggest you warn all trains." He addressed it to the train dispatcher, twisted the lead straps of a track torpedo around it and handed it to you with instructions to toss it off to the telegraph operator at Pumice.

YOU LOOKED through the front window of the cupola to see how near Pumice you were. Just as you were watching the train-order light changed from red to green in answer to your engineer's whistle, indicating there were no orders for your train. You went out on the platform, thrust your lantern out far enough for the operator to glimpse it and know you had something for him. As the light of the order board swam closer and closer, you thought of the op stationed there and of other operators in their desert stations, of the monotonous, cheerless lives they endured. But more particularly you thought about the man at Pumice; you recalled what another man had said about that same station.

"Yes, that's Pumice. A lone, yellow telegraph office set on the sands with the semaphore and the rails before it and the dun-colored desert sloping down from behind. The trains slam by, seldom stopping, and then the silence comes back and the sun shines furiously or the stars wink impudently. Nothing else—unless you wait long enough, then there does seem to be something else. Something that comes in out of the silence and you can almost touch it; only those who do touch it, they send away—and they don't let them come back. Yes, that's Pumice."

Then, suddenly you were passing above the little cinder platform of the station. There stood the waiting operator who greeted you with a ribald yell, as he stooped for the message you had tossed near his feet. He gave a couple of short upward flips of his lantern to let you know he had found it. You turned to enter the caboose, but before doing so you took a long look at the cloud in the north and as you were observing it, a flash of lightning seemed to split the cloud horizontally from east to west. When your eyes had recovered from the blinding glare, the cloud was no longer there. It had disappeared with the lightning's flash.

You were still staring in astonishment when the door beside you opened. "What did I tell you? In a couple or three hours there a young tidal wave will hit this track along here 'n that guy back at Pumice'll be lucky if his station isn't completely washed away 'n him with it." It was the

voice of your skipper reminding you of his prophecy.

"Gosh," you murmured, "that cloud sure busted sudden like."

A couple of blind sidings were passed and then you approached Crater, an open telegraph office. The order board remained red and you caught a hooped-up order that gave you a meeting point with an opposing extra. "Dollars to doughnuts," predicted the conductor, "that's a train of men and material coming to repair damage caused by the cloud-burst."

A few stations farther on you met the designated extra. Sure enough, it was a train of rails and ties, a locomotive crane, cook car for the men, cars of other material; and the flat cars loaded with rails had a young army of trackmen riding on them. It was drawing near to daybreak and the queer desert chill struck you. You shivered and your teeth chattered from the cold that would last until sunrise.

The sky lightened in the east. From over that horizon rosy fingers of light shot up; then, as though drawn from a prestidigitator's hat, the sun spurted above the horizon. Another new day had begun and it was with no regret that you viewed the approach to your terminal. The end of another trip with its trials, surprises and new experiences that each run on the steel threads produce. And these are the real reasons railroadmen will work, live and have their existence on the Great American Desert, *the Silent Land.*

Trackside Gold

ON SEPTEMBER 8, 1889, the head of the Wells Fargo Express at Kansas City, Missouri, received one of the most unusual telegrams ever sent. It read: "I have stolen your gold shipment of $50,000. I await your arresting officers. John Dale Hammond, Caddo, Indian Territory." When the territorial marshal took Hammond into custody, he readily admitted having stolen and buried the bullion-filled safe entrusted to his care as agent for Wells Fargo at Caddo, Oklahoma.

Under the existing law, the maximum penalty for this crime was twenty years in the penitentiary. But in Hammond's own words he could serve the full time and be making $2,500 a year instead of the $600 he earned yearly as express agent at Caddo. So Hammond accepted his sentence lightly.

All efforts to induce him to reveal where he'd hidden the money failed. Fellow prisoners tried to wheedle information from him for their own use. Cell partners were planted with him to learn what they could for the state. The woods were searched for miles around. Likely areas in Caddo were dug up. But not a trace of the gold was ever found.

Wells Fargo accepted its loss, a new agent went to Caddo, and Hammond became just another number in the prison. As the years dragged by, the fifty thousand dollars was mentioned less and less frequently. But Hammond never forgot it for a moment. Mentally he spent it a thousand times over, till at last he had only two more years to serve.

In 1907 the Missouri, Kansas & Texas Railway was being double-tracked from Parsons, Kansas, to Denison, Texas, passing through Caddo Parallel to the old line at a distance of fifty feet. It became necessary to make a deep cut through Caddo, and directly behind the station the steam shovels unearthed the stolen express safe. Not a single ounce of gold had been removed by Hammond at the time of the theft; even the combination was still in operating condition.

The Missouri, Kansas & Texas turned the money over to Wells Fargo. Two years later, Hammond was released at the end of his sentence.

—*Howard Harris*

Electric Lines

By STEPHEN D. MAGUIRE

CIVIC PRIDE plus the hope of potential investment returns, brought about the beginning of the companies that became the Interurban Railway & Terminal Co. Seeing the rapidity with which interurban lines were being constructed in other Ohio cities, a group of Cincinnatians formed a syndicate in 1898 for the purpose of constructing several routes which would bring their own city into its proper position as a leader in the interurban field.

Led by prominent Cincinnatians, such as George Scrugham, Lee Brooks, J. M. Kennedy, C. H. Davis, W. E. Hutton and others, three separate lines were eventually planned. The first, incorporated in 1898, was the Cincinnati & Eastern Ry., to run eastward along the north shore of the Ohio River through Coney Island, location of a popular park, to New Richmond, twenty-one miles away. The second company was the Suburban Traction, incorporated in 1899, also to run east, but slightly to the north of the C&E line, for thirty-two miles to Bethel, paralleling the Cincinnati, Georgetown & Portsmouth steam-electric line all the way. The Suburban route also had a branch running south to the C&E, meeting it at Coney Island. The third line was to be known as the Rapid Railway, but was not completed until after the IR&T came into being to take over all three companies.

Although controlled by the same interests, the routes were separately operated until they were united under the Interurban Railway & Terminal Co., on September 26, 1903.

One reason why interurban development into Cincinnati had been so slow in the past was the wide gage—five feet,

PILE-DRIVEN trestle on line to Bethel, Ohio

2½ inches—of the city track. This would effectually bar any freight interchange with steam roads. Another impediment was the double trolley wire overhead, originally saddled upon the city cars by the telephone interests, and which meant carrying double trolley poles and changing them on entering and leaving the city.

In addition, there was a fixed arrangement of a five-cent fare within city limits, three cents of which went to the local Cincinnati Traction Co., with the remaining two cents going to the interurban car. In later years this became an intolerable burden on the cars, for they were never able to change the agreement.

Construction was begun on the Cincinnati & Eastern line to New Richmond, September 15, 1900. This scenic road along the north shore of the beautiful Ohio River was opened for operation on October 12, 1902. It was double-tracked from the city limits to Coney Island, site of a large park, and beyond the park followed closely along the side of the highway into New Richmond. Due to the difficulties already mentioned, the C&E did not enter the central portion of Cincinnati at first.

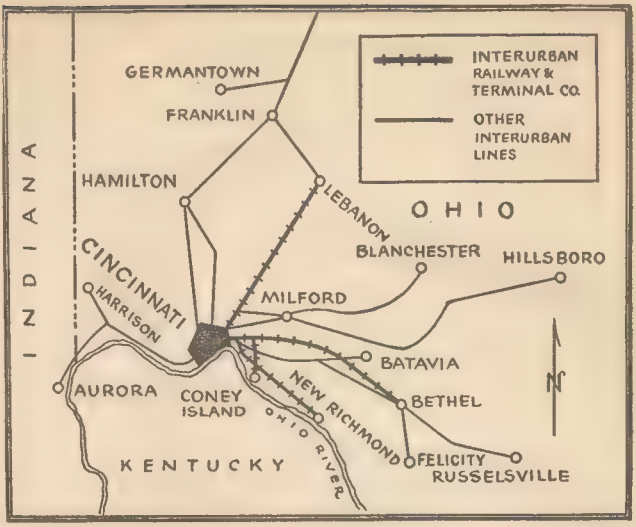
Second in construction as in incorporation, the Suburban Traction Co., dates from April 15, 1901, with operation beginning June 1, 1903. At first, STC cars did not go directly to Cincinnati; the line from Mt. Washington to the city had not been completed and considerable work was necessary before it could cross the Little Miami River. Levees had to be constructed in addition to a bridge. Cars ran west from Bethel to Mt. Washington and turned south, running into Coney Island, where the line met the C&E, then traveled over the C&E to the city. After completion of the Little Miami crossing in 1904, the Suburban cars took the more direct route.

At the time when the three corporations were merged into the single Interurban Railway & Terminal Co., the Rapid Railway had not been finished all the way to Lebanon, Ohio. Construction on this line was more difficult than on the others. Near Lebanon it was necessary to make a thirty-five-foot cut through a hill, and at Kings Mills, there was constructed a 330-foot trestle, sixty feet in height. Most of the line was single-tracked, but there were several stretches of double track. Through Kennedy and Silverton, the double track ran in the center of the highway.

At Lebanon, a small and now long-forgotten electric, the Lebanon & Franklin Traction Co., was constructed soon after the Rapid Railway. Its fifteen miles of track connected with the Ohio Electric at Franklin in later years.

On October 1, 1903, four days after the IR&T took over operation, the Rapid made its first run. Each of the three lines was henceforth operated as a division of the Interurban company.

PHOTOGRAPHS of the original passenger cars show them as hardly fitting to run on a line with such an imposing title as the Interurban Railway & Terminal Co. But there is a strange story to this. The builders, considering that the general public had never seen real interurban cars, thought it best to make the new cars conform in appearance as much as possible to the city cars with which everyone was familiar. Therefore, the equipment originally ordered from St. Louis Car Co. called for deck-roofs instead of steam-coach type, for low-hanging car bodies, and a peculiar arrangement of the windows, six wide ones on the sides, that was supposed to make the cars appear shorter than they really were. Cars of a similar side appearance are operating today in Chicago, in the 27-2800 series of the Surface Lines.



There were still other reasons why this particular type of car was adopted by IR&T. Although the lines were built to a five feet, 2½ inch gage, the bodies had to be narrow, instead of wider than on standard-gage lines, for some curves had the extreme thirty-five-foot radius, and there were frequent *devil strips* of 3½ to four feet width.

Original equipment consisted of twenty-six single-end passenger cars carrying smoking compartments, and having measurements of forty-six feet over all. They were eight feet wide. Trucks were a modification of the St. Louis Number 47 type, but, to conform to track requirements, their wheelbase was only four feet! All cars carried lavatories.

In addition to the twenty-six straight passenger cars, there were ten combination passenger-express cars built on almost identical lines. They, too, carried K-14 controllers and had four Number 56 Westinghouse motors. For freight service, there were three express motors built in the heavy interurban style with steam-coach type roofs. These cars were ordered after operation had begun and when it was realized that there would be no public objection to the usual interurban equipment.

Cars had to carry double trolleys, so wires were slightly offset along the line. In the event that one pole should break, poles had a switch enabling either to be used as positive outside the city. All equipment carried odd-looking Hunter fenders.

Six fourteen-bench open cars and three work cars completed the original equipment. In later years, five more express cars were obtained, as well as some heavy, steel interurban cars built by the Cincinnati Car Co.

Today, when we notice how small were the towns through which these routes were constructed, it seems strange that such railway lines were ever conceived. But during the period from 1899 to 1903—the time when the groundwork was being laid for Cincinnati's electric system—the gas-propelled vehicle later known as the automobile was still in its infancy and had hardly advanced beyond the experimental stage. Here are the 1903 populations of the principal towns tapped by the three routes:

C&E	Pop.
California	1073
Coney Island	406
Sweet Wine	318
Eight Mile	276
Blairsville	516
New Palestine	473
New Richmond	1916
	4978
Intermediate	2752
Tributary	5000
Total	12730

Suburban	Pop.
Mt. Washington	781
Cedar Point	370
Fruit Hill	431
Forestville	730
Cherry Grove	311
Tobasco	560
Withamsville	517
Amelia	1223
Hamlet	305
Mt. Holly	217
Bantam	470
Bethel	850
	6765
Intermediate	4216
Tributary	5200
Total	16171

Rapid	Pop.
Norwood	6480
Pleasant Ridge	953
Kennedy	209
Silverton	131
Deer Park	311
Rossmoyne	370
Terra Alta	102
Blue Ash	507
Winslow Park	193
Hazelwood	370
Brecon	441
Miltonson	210
Mason	629
King's Mills	1653
South Lebanon	592
Lebanon	2867
	16018
Intermediate	6500
Tributary	5000
Total	27518

THERE were two car houses serving the system, one at Deer Park for the Rapid Ry. and one at Coney Island for the C&E and Suburban divisions. A powerhouse was located at Coney Island and another at South Lebanon, the latter

TERMINAL of Cincinnati's Interurban Railway & Terminal Co. is at 5th and Sycamore in downtown section of the city and is still used as a bus terminal with entrance on Sycamore

IR&T'S Rapid Line is double-tracked on unpaved streets. Note the double trolley wires. *At right:* wooden freight motor used on IR&T lines. These high trucks with their 4-foot wheelbases meant really rough riding

of which served the Rapid Ry. line alone.

Once the lines were able to operate into downtown Cincinnati, they used a newly-built, six-story interurban terminal that had two entering tracks from the street on the ground floor, one for passenger cars, the other for freight. Offices of the company were located in the upper stories of this building.

In addition to freight, express and passenger business, milk was handled, being picked up enroute at farms along the line, and brought into the city terminal for quick delivery to its destination.

Mileage on the three routes totaled eighty; but trackage, including sidings and so forth, ran just over one hundred miles. The St. Louis-built cars with their short trucks were not capable of very high speeds along the 70-pound rail, but before the days of the auto and buses, they managed to carry fair loads of passengers. The Suburban line to Bethel ran in competition with the CG&P, a steam-electric from Cincinnati to Bethel and on to Georgetown and Russellville, Ohio. This rivalry did not help the Suburban's business at all, and was partly responsible for the early demise of that line.

Along the C&E track to New Richmond, the mighty Ohio River occasionally caused trouble. Between 1906 and 1913 there occurred a series of floods which cut deeply into revenues. Then, worse yet, serious fires occurred. The Coney Island car house burned with a loss of

$75,000, and the Sycamore St. terminal fire resulted in a $100,000 loss.

Maintenance fell off on all lines, as a result of the failure of the routes to make profits. As the auto came into the picture, revenues dropped even more. By 1913 the passengers were complaining of poor service. In reply, the IR&T officials pointed out the net loss of $40,000 for 1912.

In spite of the new, steel interurban cars, receivers had to be appointed in October of 1914, at the request of the Westinghouse Electric Co., owner of many IR&T bonds. By 1917 the receivers were planning to abandon the Suburban line to Bethel. This is the line that paralleled the CG&W for almost all its route. On March 20, 1918, permission was given for abandonment, and the last Bethel car ran on the IR&T on June 1, 1918.

Losses continued on the Rapid and the New Richmond routes each year thereafter. Even the New Richmond line, which had no steam road competition, showed losses. Faced with a hopeless situation, the receivers admitted defeat early in 1922, and on March 25th, the last Interurban Railway & Terminal cars operated out of the Cincinnati terminal.

For a short time thereafter, there was talk of reviving the New Richmond line by a group planning to form a new company, the Cincinnati & New Richmond Ry., to run cars out of Cincinnati via CG&P tracks to California, thence along the old C&E route. Unfortunately—or perhaps fortunately for the planners—the whole project fell through within a few months, and the system was scrapped.

Today the only IR&T track in operation is used by the Cincinnati St. Ry. cars between Fenwick Avenue and Kennedy Avenue, which track was taken over by CSR on the demise of the IR&T.

Carbarn Comments

Steve Maguire

FIRST: A word of appreciation to those readers who keep us advised of local happenings in the electric railway field. It would be very difficult, if not impossible, for us to conduct this column without their generous cooperation. Though sometimes we may overlook a few letters when sending out acknowledgments, or

DEER PARK car house where Rapid Line stored its equipment. This division extended to Lebanon, Ohio

be delayed in replying, due to pressure of getting the magazine to the printer, rest assured that we read every bit of mail that comes in to us. We're extremely grateful to all of you for your newspaper clippings, enclosures and other items of interest to our readers.

If through some oversight your letter got by us, accept our thanks now. It's your effort and the efforts of other fans who write us so frequently that keeps this Electric Lines Department functioning.

* * *

SIX-MILE Hagerstown-Williamsport, Md., line of Potomac Edison Co., discontinued electric service on August 4th, reports Stanley Crews, Lawrenceburg, Tenn. The passing of this line leaves the company, better known as the Hagerstown & Frederick Ry., with two passenger runs out of Frederick, Md. and a few short freight spur tracks. One of the Hagerstown cars, Number 172, has been taken to Frederick for use on lines there. But the Frederick track is used mainly for freight, requiring only three passenger cars. One is in service on the line to Thurmont, the other two on the Middletown run. However, the latter route expects a switchover to buses within a few months.

Samuel Kuhn, 411 Guilford, Hagerstown, Md., who was present at the ceremonies marking the end of this isolated branch of PECo, sent word that all three cars used that day were loaded to capacity for the occasion. Car 172 was draped with flags and bunting, and carried a large printed inscription on its sides, "Last Trolley to run in Washington County."

For the story of the H&F line, we can refer you to our March, 1945 Electric Lines Department, which contains a map, roster and photographs.

* * *

FROM the West Coast comes news of the traffic mess caused by the Los Angeles Transit Lines' abandonment of several important rail lines. To quote George Childers, Jr., Lake Elsinore, Calif., "Public reaction was immediate, intense and bitter to excess. The re-routing, and especially the abandonment of the U and H lines, was denounced by all.

CEREMONIAL last run on the Hagerstown & Frederick Ry.'s Middletown route. Car 172 and two other cars were loaded to capacity for the occasion

RUSH HOUR congestion, State Street, Chicago. Query: If these trolleys are removed, where will the City Fathers put twice their number in buses, as they promise?

"Los Angeles suffered the worst traffic jam in its history. Here are some of the newspaper headlines, 'Buses Fail to Aid Trackless Trolley Snarl,' 'Trackless Trolley Jam Unbroken by Buses.'

"Right in the middle of the mess caused by the abandonments, the LATL proceeded to send crews to tear up the track along the H line right-of-way. Newspapers and the public urged resumption of service on the private track instead of public streets, and the company tried to beat time by scrapping the line immediately."

* * *

CHICAGO'S Transit Authority took control of the city's surface and elevated lines last September. From facts provided by Harold Golk of Chicago and Jay Obrion of Peoria, Ill., a complete turnabout in the attitude of the rail-line operators is about to be made.

Led by bus-minded Walter McCarter, the newly-formed CTA has offered a plan for abandonment of over 400 miles of track of the 1100-mile CSL surface system. McCarter has stated, "There will never be another mile of surface car tracks built in Chicago far as I'm concerned."

Under his plan, the heavy rail routes would be kept in service for streetcars: Clark-Wentworth, State, Western Avenue and 63rd Street. The fate of the rest would be left up to people like McCarter. Just how he can expect to run sufficient buses into the Loop area of Chicago, where even now streetcar and auto traffic is jammed up, is hard to figure. No one denies that buses require almost twice as much space on the street per passenger carried as trolleys. Maybe McCarter will use the Loop streets for buses solely.

* * *

WHILE details for Cleveland's major transportation changes are being worked out, the metropolis is forging ahead with plans for rapid-transit routes for its rail lines. Approving a 22-million-dollar bond issue for a fast line to Lakewood, civic leaders hope it may mean the start of swift electric service to the heavily populated areas of the city, somewhat along the lines of the very successful Shaker Heights route, formerly the Cleveland Interurban Railroad. These rapid-transit runs would result in the abandonment of most surface rail lines.

The proposed Lakewood rapid transit line would slice nearly twenty minutes off the present streetcar schedules. Two

OUTDATED by multiple-unit PCC cars, Boston Elevated's center-door models are disappearing. Train 6186-6130 shown on Lechmere line

thousand feet of subway trackage, nine bridges and underpasses, and one thousand feet of deep cuts with retaining walls would have to be constructed to complete the route.

There seems little doubt that Cleveland's plans are the result of the public's approval of the success of the Shaker Heights line, built by the Van Swerigan interests twenty years ago. No better means of rapid transit into Cleveland's Square has been found by other competing transportation methods.

"THE FIRST second-hand, or *boomer* PCC streamliner is running on our Twin City Line's track," writes R. L. Olson of 3708 26th Ave., Minneapolis 6, Minn. "The car is Number 299, and was bought from Pittsburgh Rys. just before the TCL ordered their ninety streamlined cars. I don't think there's another spot in the U. S. where a second-hand PCC car is now operating," says Mr. Olsen.

BELOW: Altoona & Logan Valley car 178 rolling into Hollidaysburg, Pa. Line will disappear when the planned change to buses takes place

"PCC cars in the Twin Cities now service the Minneapolis-St. Paul *interurban* line, and with the arrival of the last of the ninety cars ordered, are being placed in service on other routes too." The company may order fifty more streamlined cars. These recent additions to the roster are being built by St. Louis Car company, but most of our older cars were built in the company shops. I wonder if the Twin Cities can claim the distinction of being the only locality where some cars are still operated with gates for doors?"

* * *

SAND SPRINGS Railway, with a ten-mile interurban line extending from Tulsa to the city whose name the road carries, has added six interurban cars to its line's roster, with the abandonment of the Union Electric Ry. passenger line in Kansas and Oklahoma. According to Tom Langan, 2613 East Second St., Tulsa, the six cars from the abandoned UER passenger service have been repainted yellow and tan color, and are being put in service as they emerge from the shop. They will replace the older cars which came second-hand from Ohio's Cincinnati, Lawrenceburg & Aurora.

Sand Springs has erected a new quonset-type barn for work equipment and has added two electric locomotives to its roster. These were recently purchased from the Niagara Junction Railway of New York. They've also put cash on the line for a new weed burner to maintain their right-of-way.

* * *

TENNESSEE electrics are no more. As the last car of the Knoxville Transit pulled into the Magnolia Avenue barns in the early afternoon of August 1st, one more state found itself without an electric railway in operation.

L. H. Smiley, Tennessee Theatre, Knoxville, Tenn., who sends us the report states that several men who rode the first electric cars in the city were also present at the finale. First electric in Knoxville, successor to horsecar and steam dummy lines, began service on May 1, 1890 as the Knoxville Street Railway. In the late thirties, the Transit Lines took over operation and made plans for the end.

* * *

SOON to join the trolley-less cities is Altoona, Pa., a town well-known to all Pennsylvania Railroad men. Walter C. Merritt, 2105 Washington Ave., Altoona, writes that the Altoona & Logan Valley Electric contemplates a million-dollar program of bus substitution, which will bring about the abandonment of the rail lines within a year or so.

Slated to disappear along with the local lines will be the double-tracked suburban run to the county seat at Hollidaysburg, Pa. This busy route provides a regular service of three cars an hour; but the traction company is now bus-minded, so the cars will have to go.

EX-RPO CAR, Smith Shore line's new 1100, hit 90 m.p.h. on a recent fan trip excursion

PROMPTED by reports of a forthcoming trolley abandonment, George A. Nelson, General Delivery, Spokane, Wash., took time to ride from Salt Lake City, Utah, to Preston, Idaho, via the connecting lines of the Bamberger Railroad and the Utah-Idaho Central Railroad Company. A little later, he took some more time to write us of his experiences and of the reflections called up by this jaunt on the road:

"At eight o'clock on a cold January morning, we climbed aboard the first car of the two-car Bamberger interurban, bound for Ogden, Utah, thirty-six miles north.

"The ticket agent in the Interurban Terminal, just one block from the famous Mormon Temple, knew where we were bound, but advised us to buy a ticket only to Idaline, Utah. It was cheaper to get tickets from the conductor on the UICRR car from Idaline to Preston than to buy a through ticket at Salt Lake; ICC tariffs had undergone a recent change. While waiting for our train to leave for Ogden, we examined the Bamberger time-table (the supply of UICRR time-tables was exhausted, and no more would be printed), which revealed that only one round-trip daily was made by rail on the UICRR system.

"Still another round-trip had been cancelled only five days before, with—believe it or not—also a cancellation of one round trip by UICRR busses. In contrast, the Bamberger schedule showed frequent fast trains between Salt Lake City and Ogden.

"The first car of the Bamberger train was an old, heavy steel car, but its trailer was of more modern vintage, with bucket-type seats. The train pulled out of the Salt Lake terminal about two minutes late, and proceeded a few blocks over city streets, before taking to double-tracked private right-of-way through the industrial section toward North Salt Lake, where it made a brief stop.

"Once we were out of there, we picked up speed and were soon clipping rapidly along a smooth, well-kept right-of-way, under ordinary trolley wire construction. Brief stops were made at Bountiful, Centerville, Farmington and Kaysville, Utah.

"Leaving Kaysville, the right-of-way became single-tracked, but was still smooth and in good condition. In fact, we counted thousands of new ties, and hundreds of new poles along the way. It would appear that the Bamberger line plans to continue rail operation for many years to come.

"From Layton, Utah, a speedy run through Clearfield and Riverdale brought us into the Ogden terminal at 9:45 a.m. Our connecting UICRR train was waiting. Here again, we found a two-car train. The first car, a heavy old wooden combination baggage and passenger coach was brightly painted in forest green with silver visibility stripes on the front end. The old trailer car, wearing an ancient dark green paint job of an entirely different shade, was for freight and railway express. Only six passengers climbed aboard. The train pulled out of the Ogden terminal 28 minutes late, and turned north. As we proceeded at a snail's pace through Ogden streets, the cars swayed from side to side over unbelievably rough track. It would have been a physical impossibility to stand up or walk through the car.

"Interior lights burned in the car, even though the bright sunlight of the January day was made almost blinding by a light snow covering. The shabby black leather seats served to remove some of the glare, however. The car lights dimmed to a dull red glow whenever the car accelerated, indicating extremely low trolley line voltage, but speed was maintained practically undiminished on up-grades.

"A stop at Brigham to discharge express got rid of all the rest of the passengers except my friend and myself. Being unfamiliar with the line, we studied a road map and tried to guess where the line would begin to swing toward Logan.

"Surprisingly, we continued almost due north, through Honeyville, Deweyville and Collinston. Overhead was heavy-duty catenary-type trolley construction. We saw no sign of any block signals, either automatic or manually operated; but then we were alone on the line.

"When our train left the floor of the valley and began climbing the eastern slope of the valley, we noticed that the swaying and bouncing of the cars stopped almost entirely. Apparently, the roadbed on hilly portions of the line was of much firmer foundation. A considerable elevation was reached as the line twisted and turned over sagebrush and snow-covered hills.

"Heavy snow fences lined the right-of-way for hundreds of feet at some places. Gradually, we dropped down the slope into the Cache Valley, and finally pulled into the neat little brick depot at Wellsville. We were now 35 minutes late. Carrying a few passengers from Wellsville, the car rolled on to Hyrm, over rough and uneven track.

"When we came to a stop in the middle of the main street of Logan, we were 40 minutes late. Most of the passengers left the train. The bulletin board in the brick depot announced that the receiver of the UICRR had asked the ICC for permission to abandon the entire line of 96.4 miles, from Ogden to Preston. Another notice on the board, dated six months earlier, told of 'new, lower fares,' and 'safe, clean, convenient' transportation.

"We left Logan some 45 minutes behind the advertised, and continued along the level floor of the Cache Valley, with stops at Hyde Park, Smithfield and Richmond, Utah. The track proved just as rough as before, and the few sidings we saw were lined-up for through operation. Passing rails were coated with rust.

"No settlement was visible at Idaline and a wayside sign was the only indication that we were crossing the boundary into Idaho. Shortly after leaving Franklin, Idaho, the conductor collected a small fare from us for the short distance from Idaline to Preston. A short stop at Whitney, and a few minutes later we screeched to a stop in the middle of the main street of Preston, Idaho, just one hour and five minutes late. Here the track ended and the catenary-type trolley wire dead-ended into an insulator a block up the street from the depot.

ONCE BUSY Exchange Place, PRR terminal, has few trains since Pennsy completed electrification of her mainline into New York City. *Extreme right*, ferry piers with entrance to H&M tunnels at far left

"Our return trip, due to time limitations, included a quick run from Preston to Logan via Greyhound Bus. On the way, we passed a lightly loaded but modern bus bearing the now familiar UICRR emblem, also bound for Ogden. Just twenty-days later, the UICRR ceased operation."

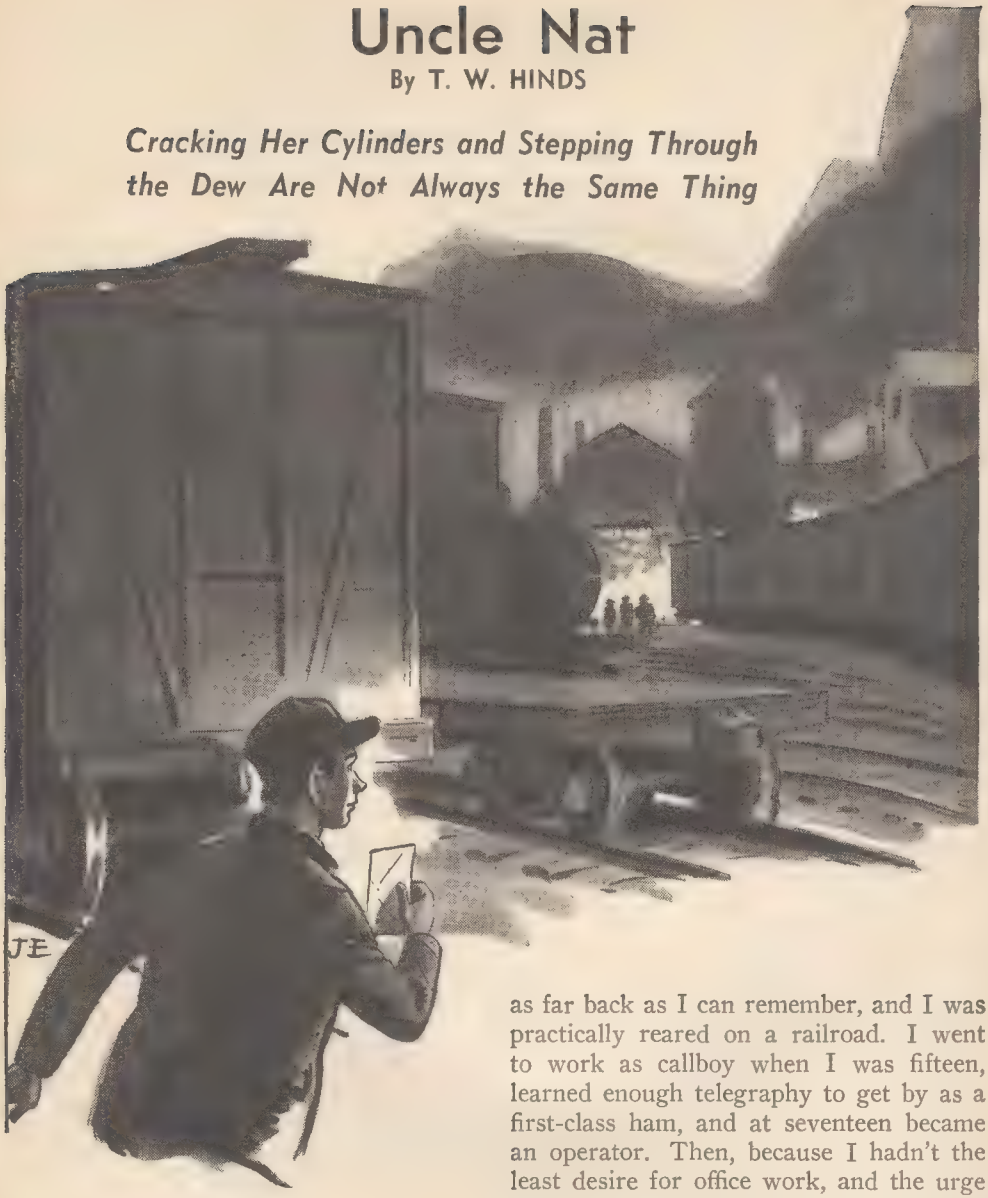
* * *

OKLAHOMA'S loss is Mexico's gain. Now that Oklahoma City is putting the finishing touches on its switch to buses, nine trolleys are being readied for a trip south of the border. Twenty cars remain, to rundown for operation. The company has received 100 applications for them as homes on wheels.

Uncle Nat

By T. W. HINDS

Cracking Her Cylinders and Stepping Through the Dew Are Not Always the Same Thing



SAM G. WORK wasn't the greatest locomotive engineer that ever pulled a throttle, nor did he have any supernatural power over a locomotive. Yet to me, he was and did; but as you know, a young fellow starting out in engine service usually picks out a certain engineer to be his ideal. Mine happened to be Sam G. Work, called Uncle Nat.

You see I'd craved engine service from as far back as I can remember, and I was practically reared on a railroad. I went to work as callboy when I was fifteen, learned enough telegraphy to get by as a first-class ham, and at seventeen became an operator. Then, because I hadn't the least desire for office work, and the urge to get in engine service kept growing stronger each day, I began watching for an opportunity to get started as a student fireman.

My chance came late in the summer of 1908. I received word through the grapevine that the Galveston, Houston & Henderson at Galveston, Texas, was putting on student firemen. It was the news I'd been waiting for. Quitting my nice little telegraph job, I set out for Galves-

ton, arriving there bright and early one Monday morning.

After quite an argument with W. M. Paul, the master mechanic, he put me on. I spent the balance of the day filling out application papers, passing a physical examination, and other similar chores, until finally I was given a letter of introduction to the yard engineers. I could start breaking in early the next morning.

But I couldn't wait until morning. Right after supper, I climbed aboard yard engine Number 16, armed with the proper credentials to learn the art of firing an oil-burning locomotive. The cab was dimly lighted. The engineer seemed terribly busy, since he was working on a hot lead track. So I introduced myself and presented my papers to the fireman, who was one swell guy. He explained that this engineer was a newly-hired man, putting in his first hours with the road. Since I'd never fired an engine, he thought we'd better wait until we got on some lighter work before he'd let me try my hand.

This fireman was Jimmie Murray, an engineer cut back to firing during the summer months. Summer was the dull season for the GH&H yard and freight crews, but a very busy one for the passenger crews. I hadn't long to wait before the switchmen went into a huddle with the yard-master, causing us to stand idle for a few minutes. During the delay, Jimmie introduced me to the hogger, a six-footer with blue eyes, hair slightly

gray at the temples—a pleasant fellow whom I judged to be well up in his forties.

Work was his name, Sam G. Work. He accepted the introduction with a big hearty handshake.

"By the great Hokus-Pokus, young fellow," he remarked, "we're starting out on this man's road together, you learning to be a fireman and me learning these engines and yards."

This friendliness took a lot of fear and nervousness out of me. I'd heard some awful tales about how unwelcome a student fireman is.

THE switchmen came out of their huddle soon and gave Work the high sign. Once again we were slamming boxcars right and left. The whanging and banging of the apron between the tender and engine, the automatic air valve hissing and snorting as the hogger released the brakes —for this engine was not equipped with straight air—were deafening. I was kept occupied trying to stay on my feet, not landing against the boiler head when the engineer stopped suddenly while moving forward, or lurching against the tank when he was backing up. The only comfortable place to stand was in the gangway behind the fireman's seat, yet there was nothing to see on that side.

I shifted behind the engineer to see if I could figure out what was going on. All I could see were the switchmen's lanterns bobbing up and down across the track, with every motion imaginable.

After about an hour of this, the switchmen coupled us into a cut of cars and headed us out to the West Yard. It was then that Jimmie let me take the seat of honor, and if I had foreseen what was to happen to me in the next few years I might have gotten down off that engine right there. But at that moment I could see a great future: good steaming engines, happy good-natured engineers and sunshiny weather. So I took hold of that firing valve and after a little practice, I could keep my steam pretty close to the pop, without letting her pop too often.

That pull-out, Ohio injector gave me plenty of trouble. At midnight, while we were on the spot for lunch, Uncle Nat explained its workings.

"Pull the handle back just a little, to the first notch," he said. "Of course there's no notch there—just feels like it, but hold it till she changes her tune. Then pull 'er on out."

I went back out in the yard with them an hour later to try out what the hogger said. Sure enough, it did the trick. After finding I could handle the injector pretty well, I left them for the night.

The first crew out at seven that morning was Ed Fugger and Buddie Robinson. I rode Number 16 again, first with Fugger and Buddie for a day or so, then putting in a few hours each evening with Jimmie and Work. I got so good they decided I was only taking up what spare room there is on a yard engine. The engineers okayed my letter sending me to the master mechanic, who immediately put my name at the foot of the extra yard engine fireman's board.

From then on it was routine. I finally worked up to a regular daylight yard engine with Robert Murray. As soon as I had served the proper time, I joined the Firemen's Lodge 115 at Galveston. Of course I was getting better and better acquainted with everybody; but I'd never yet fired for Work, and was anxious to join forces with him. But the hogger had been put in road service in quick order, while I remained within yard limits.

AFTER about a year of yard service, I begin to yearn for the open road. It looked as though I'd never get a chance until I went to the master mechanic and asked to break-in on the road. When he agreed, I picked up a letter of introduction addressed to all road engineers.

My first student trips were with Engineer Jack Wilson and Fireman Johnnie Doyle on engine 81. It was passenger service, but anyone who had much experience firing a GH&H yard goat in those days could do all right on any oil-burner. I had no trouble firing a road engine. In fact I was getting such a kick

out of it, Jack and Johnnie had to run me off after Jack put his signature of approval on my letter.

I made a few trips with John Kirtchgrabber, Raymond Stowe and a few others, before I hit the road fireman's extra board as a full-fledged tallow pot. Days went by as I watched the board closely. Then suddenly my name appeared opposite Engineer Stowe, engine 85, 2 a.m. The regular fireman, Louis Rodefeld, was taking a few days off to write up his engineer's examination for promotion. I knew this meant several trips for me on the 85 which made me very happy for Louis's promotion. But had I known then what firing for Louie would be like, I wouldn't have been quite so elated over his promotion. He was a runnin' fool the dispatchers soon dubbed the flying Dutchman. When we'd stop for water, tramps would leave our trail like fleas leaving a dead dog.

Whenever Louis was delayed, or got as much as fifteen minutes behind his schedule, dispatchers would put out a run-late order on him. Louis would shake these orders in my face.

"Willis," he'd holler, "they just won't let me run."

But to get back to Engineer Stowe and Number 85. After seeing my name marked up for 2 a.m., I went to bed early but couldn't sleep. Every time I'd doze off, I'd dream the callboy had come and gone. I'd wake up with a start and lie there wondering if I'd been called and then fallen asleep again.

Once I glanced at my watch and saw it was 1:30 a.m. I knew then I must have gone back to sleep. I got so nervous I decided that I'd better get dressed and go investigate; but at the same time, I felt it was too late to do anything. It was a dischargable offence to sleep after a call.

While lying there dwelling on the enormity of the crime, who walks in but the callboy. He explained that we'd been set back an hour for some steamer freight. What a relief! I finished dressing, grabbed my grip and hustled to the yard for my first road trip.

On arrival at the roundhouse, I found Number 85 spotted near the water spout. Climbing aboard, I proceeded to get her ready. I filled the lubricator, checked the water and fuel oil and saw to it that the crownsheet was okay. By that time Stowe arrived. The engineer was a nervous man who got highly irritated when anything went wrong. I pulled a boner right off by leaving the lubricator filler plug on his seat. He wound up his "good morning" by a lecture against such carelessness.

Soon Pete Waters, the head brakeman, came down and herded us to our train. We had our train pumped up and the brakes tested, when Conductor Shorty Price gave us the highball from the yard office. Stowe whistled off, dropped her down in the corner, opened his throttle and we started moving slowly out of the yard. It was then my troubles began.

NUMBER 85 had a reputation for being a very good steamer, but tonight she seemed unaware of that. As Engineer Stowe began widening out on his throttle, I couldn't keep up steam with a clear stack to save my neck. I had to smoke her like a factory to keep her hot. Yet the more I'd smoke her, the more I'd soot up the flues; and when flues got choked with soot, she'd really lose steam unless I'd put lots of sand through them.

You'd have thought she was a coal burner that night. That sand brought out soot, which belched from the stack like black smoke. I was beginning to get nervous, trying every adjustment of my firing valve and automizer—which sprayed the fuel oil in the firebox—yet nothing seemed to help. Stowe said nothing, but I had a feeling he might blow off any minute. After we'd taken water at Lamarque and were pulling out, he stood up, stretched his leg clear over to my side and kicked the firing valve wide open.

Because I was a green fireman I didn't appreciate his effort but I knew enough to hide my feelings. I laughed it off, glad he didn't kick me off the engine. I continued to sweat blood until our next stop at Webster, where we went in the hole

for another train. While we were lying in this sidetrack, Stowe got down in the deck and began rearranging the firebox dampers. Until then I had known nothing about them.

When the train had come and gone, we pulled out on the main line. When Ray Lane, the rear brakeman, gave us the highball from the caboose, Stowe began hitting Number 85 pretty hard. To my surprise, the more he'd widen out on that throttle, the better she'd steam. Adjusting those dampers had done the trick and that ol' needle started climbing right up against the pop with as clear a stack as you'd want to see. Put on my injector and she stayed right there without a bobble, and I discovered that working with my automizer just a quarter turn open, I could burn her up with a clear stack.

After waiting to be pretty sure I had her going my way, I jumped across the deck to Stowe's side.

"You can give her the works now," I told him, "I've got her number."

Stowe smiled but kept a steady gaze on the track ahead. He was the one who found the trouble in those dampers, not me. Yet he didn't try to claim the credit.

For a long time—before I became better acquainted with Louis Rodefeld—I always felt he had arranged those firebox dampers so that no one could keep Number 85 hot as easy as he could. But as soon as I knew Louis, I was certain he could never have planned a thing like that. Anyway, we had no more trouble on into Houston.

On our return trip to Galveston, we spotted our merchandise car at the depot at League City. Number 85 stood on the house track next to the little depot park, while the crew unloaded local freight. The sky was clouding. "Say, pal," Stowe called. "Will you get a big piece of waste, saturate it with signal oil and go out and oil the jacket above the running board before a shower comes up."

Well, I'd just joined the Firemen's Lodge. I knew that if there was one thing they were trying to get away from, it was cleaning anything outside the cab. Wanting to be a real died-in-the-wool fireman, of course I refused. Stowe didn't appreciate it one bit. He went on to explain that I couldn't fire for him or work for the road, if I refused to do what I was told.

I got up off my seatbox, took out my grip, pulled off my cap and clamped on my hat.

"What the hell do you think you're doing?" Stowe demanded.

"Reckon I'll go back to pounding brass," I replied.

At that, Stowe began to smile. Right there we buried the hatchet, but of course I knew this was my first and last trip. Stowe was kind, although I felt that down deep in his mind, my doom was sealed. I mulled over it all the way back to the terminal.

After we'd been cut off from our train in Galveston, herded back to the roundhouse and spotted at the fuel spout, I was back on the tank measuring the fuel oil, when the master mechanic walked up to Stowe. They were just below me but I'm certain they had no idea I overheard their conversation. The M.M. pointed his thumb toward the engine cab.

"What do you think of him?" he asked. "Have any trouble."

To my surprise, Stowe replied: "He's good. After a few trips he'll be hard to beat."

THAT evening I went to bed thoroughly exhausted, having had little sleep the night before. I just died off until the callboy roused me between 12:30 and 1 a.m. It was the two o'clock call and from then it became just routine; leaving Galveston every morning at two on a through freight bound for Houston, we arrived in time to pull the seven o'clock local freight back to Galveston. We would get in anywhere between noon and five, depending upon whether Bob Scholes had any mud shell for us to unload along the right-of-way.

Number 85 was a ten-wheeler, built for both passenger and freight service. Because there was no local freight on Sun-

days and passenger traffic was rather heavy, she used to haul Number 12 out of Galveston on Sunday night, coming back on the local freight early the next morning. I knew if I could hold her through Sunday, I'd make my first trip on a passenger. Stowe told me Saturday that he was going to lay off on Sunday night since it was such a hard trip after being up all day Sunday.

Stowe wasn't married then and had quite a lot of unfinished business to look after on Sunday. Of course I had no idea what engineer I'd catch while he was off, in fact I hadn't given it much thought until I showed up at the Union Station about 9:45 p.m. I went strutting through the station—hoping I'd see somebody I knew and they'd ask me where I was going—and passed through the big iron gates, alongside of a big string of coaches. I felt I was on top of the world. Then to cap it all, who should I find with his head between Number 85's drivers oiling around, but Uncle Nat Work.

I tried not to show my enthusiasm, since he was such a matter-of-fact guy. Climbing aboard, I changed my clothes as calmly as possible. Then I checked the water and fuel oil in the tank, took a peep at the crown and flue sheet, filled the lubricator, and kept pretty busy until about five minutes before leaving time. I set the flap on the firedoor about half open, which seemed to make the draft better on my fire, and climbed on my seat.

Uncle Nat got up on his seat about the same time. He sat sideways on his seat facing me, wiping his hands with a large piece of waste. As the passengers were loading on my side, it was up to me to get the highball from Conductor Price and pass it on to the hogger. We were coupled on to twelve coaches, which was a pretty heavy train for Number 85, and I was anxious to see how Uncle Nat would handle her.

As the minute hand neared 10:30, my head was out the window watching every move Shorty Price and Pete Waters were making. I glanced over at Uncle Nat who had his eyes glued on me. Ten-thirty came, but no highball. Uncle Nat turned on the air-powered bell ringer. Fifteen seconds, thirty seconds passed and still no signal. Then I saw a man run through the station gates and head for our train.

As the traveler climbed aboard, the station master waved a highball to Conductor Price, who passed same to me, and I signed to Uncle Nat. He turned leisurely in his seat facing the front of the engine, dropped the reverse lever down in forward motion and began pulling the throttle open slowly. We were off, just one minute late.

AFTER we'd moved a couple of car lengths, Uncle Nat closed the cylinder cocks and ol' 85 settled down to pulling once she'd rounded a small "S" curve just outside the train shed. She began picking up speed and as she did, Uncle Nat hooked her up a couple of notches. She started cutting off her exhaust in perfect rhythm, echoing back, loud and strong from the walls of the big warehouses along the side of the track. Her bell was swinging to and fro, so high it looked as if it would turn over.

I was holding the steam right up against the pop, since I figured Uncle Nat would need every ounce he could get to carry us into Houston, forty-eight miles away, on time. As we leveled off on a straight piece of track and started gathering speed, Uncle Nat started his famous *Rap-O-Rap-O-o-o* whistle. He hooked her up a couple more notches. By this time we were approaching 37th Street tower.

A big left curve, then a right one would bring us into our lower freight yards. As we rounded the first curve, I looked back on the train of highly-varnished coaches riding easily. Turning right then, we crossed 37th Street and into the yards for half a mile of straight track up to the yard office. *Rap-O-Rap-O-o-o.* The switchmen in the hole waiting for us to pass recognized the whistle. Then just before we reached the yard office, I noticed dimly-lighted Engine 16 over in a dark corner of the yard. It brought back mem-

ories of how Uncle Nat and I had started out together on the GH&H.

Next minute I was grabbing the orders and clearances from the dispatcher, as we pulled by the yard office. There was nothing but a clearance and a message to look out for livestock on the right-of-way near milepost 31. I handed these to Work. Once he'd shown me what they were, he folded them carefully and slipped them under the latch bar on the throttle.

I climbed back to my seat, as the hogger flipped out the cab lights, blew one long blast for the 49th Street interlocker which showed green immediately and then widened the throttle. He hooked her up a notch or two again, as she gained speed. I dropped down in the deck, sanded her out good, and began working that needle up against the pop. The bell was still now. Number 85 was getting down to business.

When we passed the yard office, I noticed we'd lost another half-minute coming from the depot. Reaching Island on the Galveston end of the bridge, we were better than two minutes late. This bridge over Galveston Bay is nearly two miles long, and passenger trains were given ten minutes to cross. Sometimes hoggers running late could fudge a little and retrieve a minute or two. I was sure Uncle Nat was planning on doing this; but as we checked off at Virginia Point he hadn't stolen a second. If anything, he lost a second or two, for he was now a little better than two minutes late.

I was wrong again when I figured he'd throw the reverse down on the forward corner and pull the throttle out against the tank, giving 85 a good working over. Uncle Nat pulled out the throttle leisurely, hooking her up when necessary. I got down and sanded her out again. Climbing back on my seat, I was ready for a nice long ride to Houston, our next scheduled stop.

SITTING there, working the steam up to the pop so I could get my injector on, I began wondering about Uncle Nat. Why wasn't he mauling the 85 for all she was worth? I'd been with Engineer Stowe long enough to know he'd never give up a minute without a fight; if he were running Number 85 this night, he'd be cracking her cylinders.

Of course, I was young and had lots to learn. But I can see him now on that engineer's seat, his left hand clutching the reverse lever near the top, his right closed and resting on his right thigh, his eyes looking steadily ahead as if in a deep study, his mind anywhere but on that schedule. As I say, I had lots to learn.

We were approaching Texas City Junction interlocker, four miles from Virginia Point, at a right nice clip. But rattling across Texas City Terminal tracks, I noticed we had dropped another half minute. Still Uncle Nat didn't seem bothered. We passed through LaMarque, two miles farther on, holding our own, no loss, no gain.

Number 85 began to really pound the rails. It is over seven miles from LaMarque to Dickinson, the longest stretch between stations on the road. As we passed milepost 31—where we were to look out for livestock on the right-of-way—there is a long passing track called Hulen Park. We saw no livestock, but of course we couldn't afford to look too closely. The race for time was on.

The engine had quit cutting off her exhausts and settled down to a sort of light roar. Her drivers were turning over so fast the side rods looked almost solid. As we roared through Dickinson, we had gained about a half a minute. We were tearing through the night now that Uncle Nat had taken her bridle off and was aiming to get us to Houston before eleven fifty.

The engineer was still gazing solemnly ahead, letting her run wild. At Shell siding, three miles on, we could see some lights moving and felt pretty sure we'd find a freight train or two in the side track, waiting for us to pass. Since order board and switch lights were green, Uncle Nat didn't change the pace of Number 85. As we tore through the night by Shell siding, he looked over his right shoulder, watching the boxcars rush by alongside us. Turning to me he said in a rather

THE switchman gave Uncle Nat the high sign

loud voice, "I'm tellin' you, Ike, this is steppin' through the dew."

We were approaching League City, the halfway mark between Galveston and Houston. When we thundered across the road crossing just south of the depot, a cloud of white shell dust arose enveloping our train. I noticed a dim light burning in the depot as we hurried by; Charles Dibrell, the agent, was studying to be a lawyer. Charlie is now state district judge at Galveston.

Out of League City, we dropped down an incline for about a mile to Clear Creek. The hogger didn't do a thing; we roared across Clear Creek bridge and started up the grade to Webster. I dropped down in the deck to give her a little sand, because my needle was showing a tendency to slip back a little. I'd set my fire so that I didn't have to touch it; when the steam would start back, I'd sand her and she'd go right back up against the pop. Once we had passed through Webster, we had another seven-mile stretch to the next station, Genoa.

Uncle Nat came over to my side, squatted down in the gangway and watched the drivers roll for a few seconds. He looked back along the train, then crossed to his own side and repeated the procedure, before returning to his seat. Evidently he thought he got a whiff of a hotbox, and they used to say the oldtimers could smell a hot journal on the fireman's side at the rear of a seventy-five-car train running against the wind.

WHEN we whizzed through Genoa, I noticed we were just on time. Guess that dip between League City and Webster had checked our speed a little, for from the way the 85 was running it seemed we should have been a bit ahead. I'd never seen any man run an engine so fast.

Our next station was Dumont, three miles from Genoa, and we'd clipped some seconds off her schedule. Four miles down the line at Harrisburg, we passed the Texas & New Orleans interlocker tower on one side of the track and the depot on the other. Rounding the big right-hand curve just south of Harrisburg, the narrow space between the depot and the tower came into sharp focus.

"If you miss that little hole down there," I said, "we're gone to Kingdom Come."

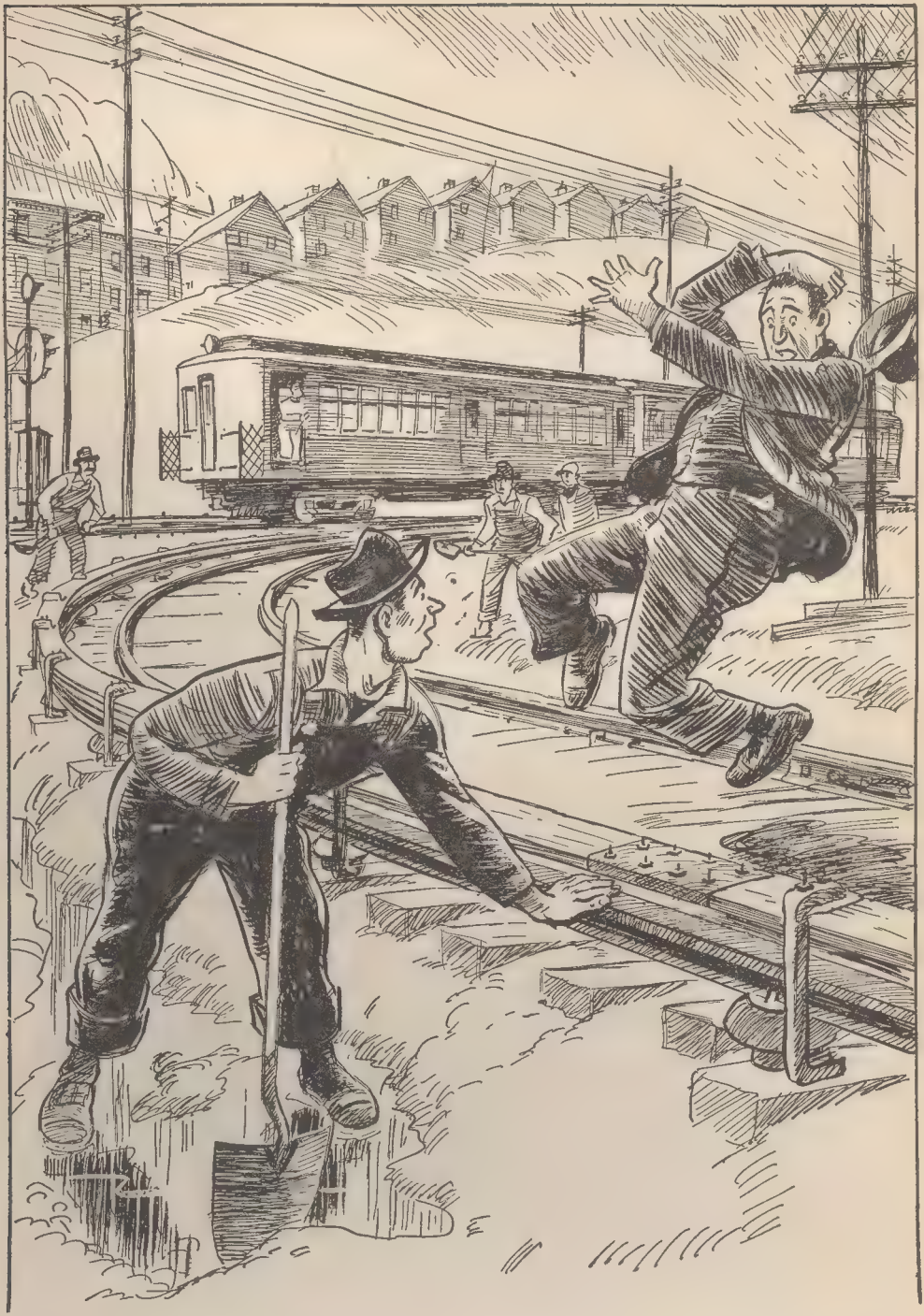
The engineer smiled but said nothing. Moments later we hit that little hole with exact precision, clicking over that T&NO intersection and starting the descent to Symm's Bayou. Work eased down on the throttle; after crossing Symm's Bayou bridge, he shut off altogether. We were ahead of the card, with little more than four miles to go to the International & Great Northern depot, our destination in Houston.

Within city limits the hogger turned on the bell ringer. By now we had reduced speed, as street crossings were numerous. We made our first stop since leaving Galveston's Union Depot at the Southern Pacific crossing, just one-half mile from the station.

Uncle Nat blew two long whistle blasts and started out chugging away. Our trip was about over. He worked steam a short distance, then made the regular service stop at Houston, right on time. It is wonderful how easy some folks can get over the road.

There were other engineers I met who could have done equally as well. Jack Wilson and Louis Rodefelt were two; but as I said at the beginning, Uncle Nat was the first I'd known. Relating these experiences gives me the queer feeling I'm living them all over again. But Number 85 was put to the acetylene torch and sold for scrap long ago. Uncle Nat has retired and gone back to his childhood home in New Philadelphia, Ohio.

It's twenty-five years since I've been on a locomotive. Fate decreed that I shouldn't be a railroad man all my life. I went back to the telegraph key for a large oil company before I'd spent many years on the GH&H. Now that I'm old and have nothing but memories of railroading, I sometimes ask myself, "Did it really ever happen?"



Not on the Wheel Report . . . . . **By JOE EASLEY**

"No juice yet, Boss."

Photo from Paul A. Elliott, 437 Ave. E. South, Saskatoon, Sask.

NUMBER 46 is a suburban tank engine adapted for double-ended operation

Photo from Norman Gidney, 1567 Commercial Dr., Vancouver, B. C.

LOW WHEELED Pacifics of the J-4d Class are used on local passenger runs

Courtesy of Canadian National

CNR Hudsons are potentially fastest heavy-duty haulers on the road

Locomotives of the Canadian National

Part 2

Dual-Service and Passenger Power of the Dominion-owned Railroad Is Among the Continent's Finest

Steam Locomotives, Continued

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and Date
			4-6-0 (Ten-Wheel) Type—221 Engines				
F-1-a	1000	18x24	51	160	111,000	21,000	Montreal, 1909
				Formerly Can. Govt. 1153			
F-1-b	1002-1004, 1007-1009	18x24	51	160	109,000	21,000	Montreal, 1911, 12
				Formerly Can. Govt. 4522-4524, 4527 to 4529			
F-2-a	1012	18x24	51	160	106,700	21,000	Alco, 1905
				Formerly Can. Govt. 4501			
G-10-a	1055	19x24	57	180	139,100	23,000	Can. Loco., 1902
G-10-b	1071	19x24	57	180	135,000	23,000	Can. Loco., 1902
				Formerly Can. Nor. 1071			
G-16-a	1111 to 1143, 1145 to 1159	20x24	57	180	154,000	25,000	Montreal, 1912, 13
G-17-a	1161-1165	22x26	58	180	173,000	32,000	Montreal, 1913
G-20-a	1174	21x26	57	170	161,200	30,000	Baldwin, 1898
				Formerly GT 1646			
H-3-a	1207, 1208	18x24	63	200	138,000	21,000	Alco, 1903
H-3-b	1212, 1217-1218	18x24	63	200	142,000	21,000	Montreal, 1906
H-4-a	1223, 1224, 1227	18x24	63	200	135,000	21,000	Can. Loco., 1906
	Nos. 1223, 1227 have 19x24 cylinders						
H-4-b	1236, 1238, 1244	18x24	63	200	136,850	21,000	Can. Loco., 1907
	No. 1244 has 19x24 cylinders						
H-6-b	1269-1271, 1273-1275	20x26	63	200	159,800	28,000	Montreal, 1905
H-6-c	1278, 1294-1322	22x26	63	180	163,300	28,000	Montreal, 1907, 08, 10
H-6-d	1323-1330, 1332-1342	22x26	63	180	171,700	28,000	Montreal, 1910, 11
H-6-f	1347-1351	22x26	63	190	176,300	28,000	Baldwin, 1911
				Formerly DW&P, same numbers			
H-6-g	1354-1409	22x26	63	180	173,000	28,000	Montreal, 1912, 13
H-10-a	1423-1452	19x26	63	200	170,700	25,000	Montreal, Can. Loco., 1910
				Formerly GTP 600-629			
			4-6-4T (Tank Style) Type—6 Engines				
X-10-a	45-50	21x26	63	210	275,000	32,000	Montreal, 1914
				Formerly Grand Trunk 1540-1545			
			4-6-2 (Pacific) Type—285 Engines				
J-1-a	5000-5003	23x28	69	190	216,000	35,000	Montreal, 1913
				Formerly Can. Nor. 700-703			
J-3-a	5030-5034, 5036-5046, 5048	23x28	69	185	224,100	34,000	Baldwin, 1912
				Formerly GT 100-118			
J-3-b	5049-5079	23x28	69	185	226,000	34,000	Montreal, 1913
				Formerly GT 169-199			
J-4-a	5080-5084	22x28	69	205	247,000	34,000	Montreal, 1914
				Formerly Can. Govt. 453-457			
J-4-b	5085-5089	22x28	69	205	248,600	34,000	Can. Loco., 1916
				Formerly Can. Govt. 463-467			
J-4-c	5090-5099	22x28	69	205	249,000	34,000	Montreal, 1918
				Formerly Can. Govt. 468-477			
J-4-d	5100-5105, 5107-5124	23½x28	69	200	269,700	38,000	Montreal, 1919
				Nos. 5117-5119, 5121, 5122 have boosters, weigh 277, 200 lbs.			
J-4-e	5125-5144	23½x28	69	200	260,000	38,000	Montreal, 1920
J-4-f	5145-5156	23½x28	69	200	260,900	38,000	Montreal, 1920
J-7-a	5250-5279	24x28	69	200	270,900	40,000	Montreal, 1918
				Formerly Can. Govt. 478-507			
J-7-b	5280-5294	24x28	69	200	268,000	40,000	Montreal, 1918-1919
				Formerly Can. Govt. 508-522			
J-7-c	5295-5304	24x28	69	200	275,000	40,000	Montreal, 1920
K-1-a	5500, 5503-5505, 5507	21x28	72	200	187,000	29,000	Can. Loco., 1905
				Formerly Can. Govt. 401-411			
K-1-c	5516	21x28	72	200	204,600	29,000	Can. Loco., 1911
				Formerly Can. Govt. 443			

Photo from William L. Rohde

STREAM-STYLED Mountain engine 6060 has a number of British characteristics

Photo by James Adams, Rail Photo Service, Boston, Mass.

COMBINED steam and sand dome housing heightens effective simplicity in CNR designs

Photo from Elwin K. Heath, Barre, Vt.

BOX CABBERS are used on Montreal terminal electrification

Class	Numbers	Cylinders	Drivers	Pressure	Engine Weight	Tractive Effort	Builder and date
K-1-d	5521, 5522, 5524, 5529	21x28	72	200	194,500	29,000	Montreal, 1906
		Formerly Can. Govt. 417,418,420,425					
K-1-e	5532, 5533, 5535, 5536	21x28	72	200	198,600	29,000	Montreal, 1908
		Formerly Can. Govt. 428-429-431-432					
K-2-a	5543-5546	23½x28	73	200	243,500	36,000	Montreal, 1913
		Formerly Can. Govt. 444-447					
K-2-b	5547-5551	23½x28	73	200	248,400	36,000	Montreal, 1914
		Formerly Can. Govt. 448-452					
K-2-c	5552-5556	23½x28	73	200	249,500	36,000	Can. Loco., 1916
		Formerly Can. Govt. 458-462					
K-3-a, b c,d,e,f	5557-5611	23x28	73	195	229,000	34,000	No. 5609, GT, 1920; Nos. 5569-5577, 5597, Montreal, 1913; Nos. 5604-5608, 5611, Baldwin, 1910-12; all the rest GT, 1910-12.
K-3-g	5612-5626	22x28	73	200	219,100	32,000	Montreal, 1911
		Formerly GTP 1100-1114					
K-4-a	5627-5631	25x28	73	200	285,500	41,000	Alco. 1924
K-4-b	5632-5634	25x28	73	215	299,330	41,000	Baldwin, 1929

4-6-4 (Hudson) Type—5 Engines

K-5-a	5700-5704	23x28	80	275	356,400	43,000	Montreal, 1930
		These engines exert 53,300 lbs. t.f. with boosters					

4-8-2 (Mountain) Type—79 Engines

U-1-a,b,c	6000-6041	26x30	73	210	various	50,000	Can. Loco., 1923, 24
	Nos. 6037-6041 are GTW, were built by Baldwin in 1925, weigh 354,110 lbs., Nos. 6000-6015 weigh 354,300 lbs.; Nos. 6016-6030, 355,570 lbs.; Nos. 6031-6036, 354,300 lbs.						
U-1-d	6042-6046	24x30	73	250	352,720	50,000	Can. Loco., 1929
U-1-e	6047-6058	24x30	73	250	354,800	50,000	Montreal, 1930
U-1-f	6060-6079	24x30	73	260	355,700	52,000	Montreal, 1944

4-8-4 (Northern) Type—203 Engines

U-2-A	6100-6119	25½x30	73	250	385,590	57,000	Can. Loco., 1927
		Nos. 6101, 6102, 6105-6114 weigh 396,390 lbs.					
U-2-b	6120-6139	25½x30	73	250	381,900	57,000	Montreal, 1927
U-2-c	6140-6159	25½x30	73	250	383,000	57,000	Montreal, 1929
U-2-d	6160-6164	25½x30	73	250	390,000	57,000	Montreal, 1936
U-2-e	6165-6179	25½x30	73	250	402,700	57,000	Montreal, 1946
U-2-f	6180-6189	25½x30	73	250	389,330	57,000	Can. Loco., 1946
U-2-g	6200-6234	25½x30	73	250	399,600	57,000	Montreal, 1942-3
U-2-h	6235-6264	25½x30	73	250	400,300	57,000	Montreal, 1943-4
U-3-a	6300-6311	26¼x30	73	250	399,000	60,000	Alco., 1927
U-3-b	6312-6336	26x30	73	250	403,000	60,000	Alco., 1942
U-4-a	6400-6404	24x30	77	275	379,800	52,000	Montreal, 1936
U-4-b	6405-6410	24x30	77	275	382,700	52,000	Lima, 1938

Diesel Locomotives (48)

Q-1-a	7700 (1) 6 cylinders	38	142,400	36,000	Can. Loco. & Can. West., 1930
Q-2-a	7720 (2) 6 cylinders	33	140,000	40,000	J. G. Brill, 1929
Q-3-a	7750 (2) 6 cylinders	43	237,000	50,000	Can. Nat.—Can. Ing.-Rand—Can. GE, 1932
Q-4-a	7800,7801 (1) 8 cylinders	40	200,000	50,000	Electro-Motive, 1938
Q-5-a	7900-7902 7904-7914 (1) 12 cylinders	40	246,700	60,000	Electro-Motive, 1942
Q-5-b	7915-7917 (1) 6 cylinders	40	237,000	60,000	Alco., 1942
Q-5-c	7920-7935 (1) 6 cylinders	40	237,000	60,000	Alco., 1944-1946
Q-5-a	7936-7945 (1) 12 cylinders	40	237,000	60,000	Electro-Motive, 1946

Electric Locomotives (24)

Z-1-a	9100-9105	46	166,000	40,000	GE. and Can. GE., 1914
		Formerly Can. Nor. 600-605			
Z-2-a	9150-9155 (StCTCo)	62	128,900	31,000	Baldwin-West., 1907
		Formerly 2655-2660			
Z-2-b	9156 (StCTCo)	62	141,040	31,000	Baldwin-West., 1927
Z-3-a	9175, 9176 (StCTCo)	50	143,000	31,000	Baldwin-West., 1918
		Formerly Chicago, S. Shore & S. Bend 505, 506			
Z-4-a	9180-9188	51	208,000	60,000	English Electric, 1924-26
		Formerly Nat. Harbor Board, Montreal 101-109			

New Railbooks

The Santa Fe Trail, *by the editors of* Look, *271 pages, illustrated with photographs, old prints, and two maps; Random House, New York City, $3.50.*

THERE were three great overland routes to the West, the Oregon-California Trail, the Mormon Trail, and the Santa Fe Trail. The last-named, "although it shares with the other routes the glamor of the opening of the West, and although it was the oldest of the trails, was overshadowed by the magnitude of the traffic carried by the other roads." With this frank admission, the authors present, in picture and text, a dramatic and colorful story that begins two and a half centuries ago and culminates in a mighty system of steel rails covering more than 13,000 miles in nine states—more than sixteen times as long as the old wagon-rutted highway that linked Independence, Mo., with the adobe-hutted Santa Fe, N. M.

As might be expected of a work authored by the editors of a picture magazine, *The Santa Fe Trail* appears to be written around its 228 illustrations. Twenty-seven of these illustrations take two pages apiece, seventy-three are full-page pictures, and the rest are smaller, but not one of them is too small. There is a wealth of picture-value capably selected, played up impressively, and for the most part adequately captioned.

Text matter, aside from the very generous allotment of caption space, fills little more than fifty pages. The illustrations are about equally divided between photographs and old prints, most of them contemporary. They are also about equally divided between railway and non-railway subjects.

The collection is characterized by a vigorous freshness, relatively few of the illustrations having been widely reprinted in recent years. Unfortunately, two of the tritest prints in the whole book, one showing an early sleeping-car interior, the other a buffalo-hunting excursion, are given two full pages apiece. A photograph of a present-day Santa Fe passenger train entering a tunnel, is captioned: "Scenic beauty . . . is still present to delight the modern traveler. . ." We are wondering how much scenic beauty a caption writer could see inside a tunnel.

The text matter gives a thorough, carefully-researched history of the famous trail and the Atchison Topeka & Santa Fe Railway. Except for the greater part of the last chapter, in which the publicity approach is too bald, the book is not only entertaining but is valuable as reference material. The entire volume bristles with lively information.

"The trail to Santa Fe," we learn, "was a two-way thoroughfare of international trade. It had its wagon trains, its ox-carts, and its laden mules. Westward they crept and swayed, crammed with the precious wares of Yankee commerce; on the way back they were laden with bales of buffalo robes and beaver skins, with silver from Mexico. The Santa Fe Trailers had to contend with Indians. Mexicans, even with Texans, who raided their trains. To them the trip to Santa Fe was a perilous cruise across a boundless ocean of prairie, over mountains and through rivers, among wild beasts and wilder men. But it ended in an exotic place and the profits were rich."

Then the railway came. Here is a typical chapter subheading: "When the commerce that had been carried to Santa Fe in a year could be hauled on one freight train, the dust clouds settled on the old trail forever."

For anyone interested in historical lore, especially railway photos and old prints, this book will afford much pleasure. The subjects are varied, the text matter illuminating. —F.H.H.

Men of Erie, *by Edward Hungerford; published by Random House, New York; 346 pages, 52 illustrations, 6 maps; price $3.75.*

SOMETIMES the Hungerford railroad histories are slightly on the dull side; this one definitely isn't. The veteran writer has made the most of his anecdotal material, of which the Erie story furnishes a plenty. His character sketches are good, too. They deal with such men as the early president, Eleazor Lord, who insisted on sticking the Erie route into Piedmont where he had built himself a Scottish mansion and whose fantastic elevated track was long a source of wonder—and anger—to right-minded Erie men. Other and better known luminaries are the entrepeneurs Drew, Fiske and Gould who alternately guided and ruined the road.

The story of the men who made the line—Redfield, Loder and other early financiers and engineers—is a quieter tale, but just as meaty. Few rail historians have devoted more fascinated interest to actual construction problems than is shown in Hungerford's descriptions of the marvelous Starrucca Viaduct and the fabulous wooden bridges at Cascade and Portage. The latter he calls "a triumph in wood construction." Neither Starrucca nor Cascade presented a problem as difficult as did the narrow defile over the Genesee at Portage where a chasm 250 feet in depth and nearly 900 feet wide called for two years' work and used up nearly three hundred acres of closely grown pine land plus the imported strength of 106,280 pounds of iron. Once it was finished though, people came for miles to view the fairy-like structure; for years Erie trains slowed or stopped, almost with reverence, it would seem, as they passed over the bridge.

Erie can boast many firsts, among them the first telegraphic train orders in the world. Out of the road's experiments with telegraphy grew a commercial line which, in time and through the efforts of Ezra Cornell who founded Cornell University, was to become the early combine known as the Western Union Telegraph Company. Another Erie first was connected with a man of perhaps even more importance. That was the first railroad strike and the man in question was Daniel Craig McCallum, afterward military director and superintendent of the United States Military Railroad. McCallum became operational chief of the entire Erie in 1854 and immediately afterward installed a precise code for train operations. Only one of McCallum's rules was definitely objectionable to the engineers, but the plan he installed at the same time, that of notifying other companies whenever the Erie dismissed a man for cause, was responsible for the engineers' strike of that year. McCallum capitulated within ten days, but two years later similar difficulties broke out again with the result that Erie traffic was at a standstill. In the end, before McCallum was ousted, the road lost over a million dollars and was declared in receivorship.

Almost every one of Hungerford's twenty-six chapters contains similar or even more stirring stories. It is a volume that every railroader interested in the practical details and the curiosities of his profession will want to own.—H.H.G.

Mixed Train Daily: *A Book of Short-Line Railroads, by Lucius Beebe with photographs by C. M. Clegg Jr. and the author, and six original oil paintings by Howard Fogg; published by E. P. Dutton & Co., New York City, 368 pp.; $12.75.*

WHEN Lucius Beebe and Charles M. Clegg set out during wartime to rediscover the vanishing empire of America's short lines, their reporter-photographer mission was regarded with varying degrees of friendliness, suspicion and sometimes plain indifference, by those they met. A craggy-featured conductor on the Nelson & Albemarle, deep in Blue Ridge country, was a bit uneasy. "You fellers will probably laugh at our little railroad when you've gone away, but we won't

care," he remarked wistfully. But that's where Conductor Drumheller was dead wrong. *Mixed Train Daily* is the best proof that Beebe's shortline safari only increased his contempt for the "monstrosities of Diesel and the improbable turbine," while it upped his affection for the nation's 300-odd shortline railroads.

The text of this book concerns the little trains of the side-road carriers, built often by the towns which the tangents of big steel had sidestepped. In the thick forests of Georgia and Tennessee, in the swamps of Florida, and strapped onto the Colorado and Nevada mountainsides, short lines have been the lifeblood of the villages in a way that few city dwellers can understand. They've meant the difference between prosperous towns or ghost towns, civilization vs. isolation; sometimes, as when the Virginia & Truckee threw a golden spree, they meant champagne and waltzing in the V&T roundhouse. These intimate details, tales of heroic builders and crews, are Beebe's story material.

Yet *Mixed Train Daily* is first of all a picture book. The oldtime narrow-gage engines proud of their burnished candlesticks, Indian emblems, antlers and cabbage stacks; the light iron rails circuiting the hills; the lonely water towers, vine-grown and sun-bleached in their abandonments to decay—these take life in the sensitive photographic portraits by Charles Clegg, and the author. Though shot between 1940 and the present, these are unspoken history and will remain timeless.

Adding to the artistry of the book are fine reproductions of six color paintings by Howard Fogg. While capturing the spirit of his subjects, Fogg's skillful treatment of technical detail will please the most ardent railfan. —E. K.

Box-top Railroad

FOR SEVERAL YEARS, now, we railroader dads have been the victims of a grim, gastronomical hoax, thanks to the action of certain breakfast-food manufacturers in printing atomic space-ships, diaper-winged stratoliners and supersonic dingbats on their box tops. Because Junior's response to this airlines' propaganda was focused more sharply on the carton than its contents, the old man not only found himself forced to bite the hand that fed him but, with it, the crunchy, radio-active Oak Ridge floor sweepings as well. The result has been a sharp rise in *drycereal-morningitis,* a form of peptic ulcer caused by a three-pronged clash between occupational, digestive and paternal devotion.

Beginning this month, however, the cream will be in the other pitcher. Saluting the railroad industry with steam explosions, barrages of corn confetti and, more particularly, a pillow-shaped phenomenon which whistles like a yard goat in the breakfast bowl, General Mills has announced that it will feature authentic scale-model railroad cutouts, in full color, on both inside and outside wrappings of its ready-to-down, dry cereal product—KIX.

We've had a preview of the thirty-five models, printed on sixteen different packages, which comprise this corn-belt fleet. There are Pullmans and observation cars and coaches, an PRO'er and a gas-electric, hoppers and reefers and tank cars, crummys and a wrecker with an idler for the boom. Eight engine types, including a B&O ten-wheeler, a UP *Challenger* and a Pennsy GG-1, will keep the rolling stock in motion—and for the lad with a flair for realism there's a coaling station which will dump a morning ration of KIX right down his gullet.

It's funny how a change in the box-top can switch the breakfast outlook. This morning we had another slug of KIX, ourselves. As we turned the first rich golden nugget over on our tongue, drove a pivot tooth into its delectable, puffy goodness, and washed it down with a swish of Java, it seemed to us that we could hear, afar, the crunching of cinders underfoot, the clank of an automatic stoker and the rumble of a long freight bunching slack.

No doubt about it, Son, there's energy in them thar G. M. trains. —H.B.C.

Experiences Way Back

By EDWIN PURKESS

ALTHOUGH I have been away from active railroad work for many years, I have never lost interest and each issue of *Railroad Magazine* recalls old memories and experiences. About 1904, I worked on the Grand Trunk and Wabash roundhouse at St. Thomas, Ont. The roundhouse was lighted by old-fashioned oil lanterns hanging from the roofs, giving a rather poor light between each stall. After working late at night reseating and regrinding pop valves on one of the locomotives, I went down about four the next morning to set them. She had to take a freight early the next forenoon. I found her lit up and good and hot so I shoveled on coal, and each time she blew off I noted the steam gage and screwed down on pops accordingly.

Between the glare from the firebox and steam blowing off, I could not see much more than fog outside the cab but, presently, glancing out, I was startled to see the hanging lamp coming toward me. Leaky throttles are not uncommon, so I thought my engine was going forward into the turntable pit. I jumped to the throttle and tried to close it tighter but it was closed anyway. The Johnson lever was central so I yanked it toward reverse. I did not dare to leave reverse lever, so I fought that lever forward and reverse for a few seconds till I realized that the only indication of movement was the swinging lamp and that the engine had moved very little and probably not at all. I gave the whistle a few sharp blows that brought the hostler to me in nothing flat.

When I told him what had happened, good-natured Dan laughed his head off. Sure enough, investigation showed that in addition to the throttle leaking, the valve stem packing was blowing badly, making a draught which caused the lantern to swing slowly back and forth. The hostler squared himself by taking the engine out to the shop track where I had the benefit of approaching daylight. A sharp blast on the throttle remedied much of its leak and the valve stem leak stopped itself when moved and after lubrication.

A later experience at St. Thomas forever cautioned me to be careful in my time-saving methods. It was routine in all pop valve jobs to remove the steam gage from the locomotive and test it on the Crosby Steam Gage Tester. Then we had the locomotive clerk stick a label inside the glass giving the date tested. This time as soon as I had tested the gage, I sent my assistant, Eddie Web, to the office with the glass to get the sticker, while I removed the gage from the tester and installed it in place on the boiler head. By the time I had done this, Eddie returned with the glass, which I screwed on. Then I got up on top and adjusted pops while my assistant fired up and signaled the pressures each time she blew off.

The hostler showed up, saying he would have to take her out now, as it was getting toward train time, and we could finish work on her outside. As he jockeyed her out, he remarked that she was darned smart for the low pressure she showed. Further jarring caused the pressure to jump up considerably. The engineer and fireman had come up, ready to go; but we knew something was wrong, probably the steam gage. I unscrewed the rim and the hand promptly jumped up about fifty pounds more than the engine was allowed.

Getting to work, I blew back both injectors and eased up on pop adjustments till pressure was lowered to safety point. The boiler did not blow up but I did, as I knew now that the train would be set out and require new train orders which would mean letters to answer, telling why.

Now this is what had happened and why: The glass was held in the rim by a fillet of plaster of paris, a new method to me. While my assistant was walking toward the office, he trimmed down some

rough places on the fillet with his knife, so that when he replaced it on the gage it screwed on further than usual, causing the glass to bear against the end of the spindle, restricting its free movement and thereby giving false reading. The glass should have been replaced before the gage was removed from the tester. This I did now, after removing the plaster of paris and fitting a ring to hold the glass. When I finished adjusting the pops, my hands were scalded. I went home to cool off and there I stayed until the next morning. Then our kindly roundhouse foreman, Bob Cottrell, sent the callboy to tell me there was a job to be done, just as if nothing had happened.

IN LOOKING back over the years I sometimes associate incidents in my own life with contemporary events. For instance, I went to work for the C&NW at 40th and Lake streets, Chicago, the day the Chicago Car Barn bandits, Neidemeyer, Marx, Van Dyne and one other were executed. Staying with the C&NW several months before moving to the CRI&P shops (not yet completed) at East Moline, Ill., I hired on in Chicago and got transportation to the job. The shops are located a few miles from the Tri-Cities, Davenport, Rock Island and Moline, and the company ran an employes' train between those cities and to the plant each morning and night. This train was hauled by a switcher used during the day to move plant construction material as well as supplies for locomotive repairs.

A peculiar accident happened one morning as we were nearing the shops. It was the custom for the men to crowd the platforms and steps ready to jump off and run, in order to avoid waiting on the line to punch the clock. On the morning in question, two eager men were climbing down the rear steps of the switcher when the engine and tender jumped the rails. One of the men jumped clear, but the inside man was jammed between the bumpers of the coach and tender, and held there by his hips, some miracle preventing him from being crushed to a pulp. The switcher's driving wheels had settled down between the ties. The only way to release the man was to put jacks between the bumpers. He was badly hurt, unable to work for about three months; but the accident put an end to riding on the steps.

I can still feel the thrill of working at East Moline with its modern shops and monster engines and greater variety of work. There were many boomer mechanics there; three months' service made you a veteran. One of my first jobs was the shoes and wedges of a big Consolidation. The planer and other machinery were not yet installed, so I could not clean up the driving boxes, together on the driving face the same distance from the axle centers. As for making deductions and allowances, I probably used calculus and Einstein's theory without realizing it—but what a relief it was when the side rods went on without much of a fight!

Before long, I was given the opportunity to transfer to St. Thomas, Ont., where I took the airbrake job mentioned before.

One morning while we were at work, we were appalled by the news that the Russian Fleet under Admiral Rodjesvensky had fired on a fishing fleet in the North Sea with the loss of probably three or four lives. They had mistaken the trawlers for Japanese torpedo boats in the dark. Back in 1904 that incident caused more excitement than the loss of fleet units could cause today.

St. Thomas was a division point and the Wabash used the Grand Trunk between Niagara Falls and Sarnia, Ont., and we did maintenance work on engines of both systems, while the Wabash's heavy work went to Ft. Wayne, Ind. I recall an old eight-wheel kettle that had been overhauled and had been back in service about ten days when her airbrake developed a strange quirk. When an ordinary service application was made, the left side would apply in proper manner, while the right side would wait a moment and then slam on in emergency. Since these oldtimers

are getting scarce, I will state that the brake cylinders were set vertically between drivers and acted downward on cams attached to brake shoes which were forced outward against drivers, one pipe coming from triple valve to a tee with branches to the brake cylinder head. After several days' service the piston returning to release had recessed itself against the nipple, making an airtight seat so that when the brake was applied, the left side only worked, building pressure up in the pipe and causing it to let go with the apparel emergency application.

Passing years have wrought many a change, not only in locomotive types but in the roundhouse personnel at St. Thomas. The foreman there, as I mentioned, was Bob Cottrell; the roundhouse mechanics were Jack O'Neil, Tommy Hund, Jimmy Armitage and his respected stepfather, the dad and advisor to us young squirts—Jimmy Brorghton.

THE boiler did not blow up, but I did . . . .

Day Photographers, St. Louis, Mo.

SPEED-UP SCHEDULES keep fast FRISCO freights like the above, headed by 4515, on regular runs with products to consumers of the South, Southwest and Middle West

On the Spot

Railfaring Men Sit With the Editorial Crew to Swap Experiences, Offer Suggestions and Settle Arguments

A FLOOD of mail is continuing to follow the publication of "The Passenger Problem," by Donald M. Steffee, in our June issue. Nearly all of the correspondents agree with the author that railroad passenger departments for the most part are concentrating on main-line, long-distance runs, while letting secondary and branch-line business go to pot.

Tom Lane, 362 Boston St., Seattle 9, Wash., writes: "I myself know of three potentially profitable runs out of Seattle that could be more successful with a little investment. These three are Northern Pacific runs to Bellingham, to Aberdeen and Hoquiam, and to Yakima and Pasco. I hope *Railroad* prints more such articles in the near future. Maybe some officials who read them may be inspired to pep up their local service. 'Highballing the Cincinnatian,' by Editor Comstock, also in the June issue, is a good feature that shows what steam power can do when given a chance."

"Steffee is really hitting the nail on the head," in the opinion of Harry A. Davis, 5823 Monticello, Dallas 6, Tex. "The two-car units could bring back to life many short lines by giving regular service. A great help to this class of service would be revision of the full-crew law, as these two-car units require only two men. In some cases a porter also would be needed. By revising the full-crew law and operating these units, more men would eventually be employed than at present by the railroads.

"There's a wide field for such equipment in the Southwest, where the bus lines are now hauling full loads with frequent service. Between Dallas and Fort Worth, for instance, two-car units could make the run in about 35 or 40 minutes, as compared with one hour by express bus. Another popular feature of the small units could be intermediate stops between towns and several stops inside large cities, instead of all passengers having to go down to the station."

Just how two-car units could speed up to beat the express buses and at the same time be slowed down by local stops is not quite clear to us. It is true, as Mr. Davis infers, that the bus companies are very much on their toes—sometimes in cooperation with the railroads. Just recently three of the largest inter-city bus companies in the West asked the Interstate Commerce Commission for permission to merge, these three being the Santa Fe Trail Transportation Co., Continental Bus System and Dixie Motor Coach Corp., all members of the National Trailways Bus System.

"No doubt we will hear and read lengthy arguments as to why Mr. Steffee's suggestions are impractical, costly, and not worth adopting," comments W. David Swaney, 37 15th St., Wellsburg, W. Va., "but I'm hoping there'll be enough voices raised to insist that some of the ideas be given a real test. I have no quarrel with the thesis that railroads should make a profit—they must do so, or we will have government ownership. And I have no quarrel with any worker, railroad man or otherwise, wanting good wages. Every American is entitled to the opportunity to work for a living. But when operating costs go so high that some trackage has to be abandoned, who loses? The worker, of course; he has to find another job. The railroad company surely; it gets no revenue from the abandoned line. And the public loses most of all, being deprived of service they once had and of railroad taxes that used to help the community."

Not all of our readers back Mr. Stef-

fee's campaign. Ned Alvord, writing from Rice Hotel, Houston, Tex., says: "To a professional traveler like myself, the piece by Mr. Steffee reads like the author had shot something in the arm, consulted the *Official Guide,* and gone to pecking a typewriter. Like any other business that doesn't depend on lend-lease or taxpayers' money, passenger traffic goes where business is. Through train between Halifax and Miami? There aren't enough bluenoses in the Maritime Provinces who'd let go of sufficient moolah to fill a Pullman car in thirteen months.

"On the general proposition that the carriers can in many cases make money by improving passenger service there is no doubt. But in each case the traffic must be *there.* Streamliners may wean traffic from buses, private cars or dog sleds, but they must make more traffic.

"Undoubtedly there is room for the solvent operation of short lightweight trains with modern conveniences in the lesser traffic zones if the costs could be computed on the basis of common sense," Mr. Alvord concludes.

F. O. Ellis, 36 Rusholme Road, Kitchener, Ont., Canada, says the Canadian National seems to have lost interest in passenger travel and calls our attention to the fact that 60 years ago *The Globe* of Toronto was delivering its newspapers daily except Sunday on a Grand Trunk special train that left Toronto at 3:55 a.m. and reached London at 6:40 a.m. This time was two minutes faster than the *International Limited* is today.

Steffee's article reminds Arthur Floyd, 1511 Vining St., Victoria, B. C., Canada, of the railway races between London and points in Scotland 52 years ago.

In the 1890s there was keen rivalry between the Northwestern and the Great Western lines that operated on opposite sides of the English coast. Amazing speeds were rolled up by engines with eight-foot driving wheels. Within two months the best scheduled time between London and Edinburgh, a distance of 400 miles, was lowered from 10 hours to 8, with a 52 miles-per-hour average, including a 20-minute stop at Preston for lunch, which was nothing short of spectacular at that stage of motive-power development. The stop for meals was necessitated by the fact that British railways during the period had not dining cars. In 1891, when the Forth Bridge in Scotland was opened for traffic, another speed-up resulted. Then the East Coast line gained on its rival, bringing its night express from London to Aberdeen, Scotland, 15 minutes ahead of the fastest West Coast trains.

Matters continued thus for three years. Then on June 22, 1895, the West Coast threw down the gauntlet by announcing that their 8 p.m. express from London would reach Aberdeen at 7:40 a.m., almost the same time as the East Coast speedster. The latter countered by advertising the arrival of a train at Aberdeen from the same date at 7:20 instead of 7:35 p.m. At that the West Coast accelerated its night limit by 40 minutes: Aberdeen arrival time, 7 a.m.; and on the following July slashed more minutes off the fast schedule, still leaving London at 8 p.m. but reaching Aberdeen at 6:21 the next day.

After that the London-Aberdeen runs were cut to 10 hours, with speeds exceeding 70 mph, engines being changed thrice on each trip. Then on August 19th each route cut another 45 minutes from its schedule. West Coast directors decided to cover the 540 miles in 9 hours, 35 minutes, *which is 2½ hours less than the fastest time either line had made seven weeks before.* The East Coast, whose distance was 523 miles, reduced its time to 9 hours, 40 minutes.

The West Coast line scorned its own published timetable. By running a relieving train behind its regular express to pick up belated passengers, it reached Aberdeen at 5:15 a.m., 20 minutes early, having covered the 540 miles in 555 minutes, with four stops enroute. Even in those days, this record was pretty hot stuff.

But the next day the East Coast determined to get there first; and it did, after an astonishing run, at 4:40 a.m., spanning

END of emergency run for Rock Island special rushing respirators and hot pack machines for polio patients to Des Moines, Ia. Below, unloading same equipment for the emergency pool set up by National Foundation for Infantile Paralysis, Inc. American railroads do yoeman work during any epidemic, served faithfully in 1946 polio outbreak. Similar willingness to aid the community it serves as the whole nation is shown in the face of flood or 'quake disaster

the 523 miles in 520 minutes, skinning its rival to the tune of 4½ minutes! That was faster than a mile a minute—523 miles in 6 hours, 18 minutes! The present time from London to Edinburgh is about 8 hours, non-stop. The old record is a tribute to the engineers of those days.

August 22, 1895, witnessed the fastest railway run for distance covered that the British Isles has ever known. It was a West Coast record. From London to Crewe a 3-cylinder compound locomotive, the *Adriatic,* clipped off 158½ miles in 147 minutes. The relieving engines enroute from Crewe to Carlisle and from Carlisle to Aberdeen contributed their share of the glory. Altogether the 540-mile distance was negotiated in 512 minutes, at an average of 63.3 mph, including three intermediate stops.

The last part of the race between East and West Coast lines, from Kinnabar Jct. to Aberdeen, 38 miles, was one of the most sensational spurts in British railway history. The trains went to the winning post over the same rails. After this contest the railway companies ended the racing by mutual agreement. But it was very exciting while it lasted. Arthur Floyd, who gives us these facts, was a boy of 12 at the time and remembers the dramatic events after a lapse of 52 years.

Harris and Ewing Photos

BAGGAGE CAR for autos, the latest thing in the railroad world, is being tested on some rail lines at present and the service may be instituted shortly

When you consider that speeds had to be curtailed in leaving London and in passing through other cities with their maze of rails, the records made back in those days were phenomenal. Today there is no rivalry among Britain's railway systems, for they all have been nationalized—whether or not for the best remains to be seen.

* * *

NARROW GAGE. Following the publication last April of his letter about the yardwide Boston, Revere Beach & Lynn, a former engineer of that road named Frank J. Marshall, 368 Friendship St., Providence 7, R. I., was so swamped with requests for further information that he submits these facts:

The BRB&L was one of the most popular amusement features in and around Boston, Mass. Warm weather, like a magnet, drew people to the beach. Many boarded the narrow-gage line just for the ride, others to see the beach itself and enjoy the various concessions. In the sumer of 1907 a playland known at Wonderland Park was erected on many acres of swamp land near Bath House station. Included were a great scenic railway, a miniature railroad, a midway, and a mammoth outdoor attraction entitled "Fighting the Flames," the last-named representing a section of old New York with a real horse-car and a fire department in action in a tenement district, with exciting rescues by ladders and fire nets.

This park drew enormous crowds. The BRB&L had to put on nine-car trains on ten-minute headway to handle them. "That miniature railroad, which was one of the reasons why BRB&L passengers visited Wonderland Park, recalls an unfortunate coincidence," Mr. Marshall writes. "My train and another were involved in the biggest wreck the slim-gage road ever had. I was pulling a six-car train into Lynn on a May evening just at dark and had reached the yard near the terminal depot at Pleasant Street crossing. The other train was leaving for East Boston, moving slowly, waiting at the ballhouse mast signal for me to 'clear the iron.'

"It seems that the outgoing fireman had run ahead of his train to get a drink of icewater from a bucket that stood at the gateman's shanty and his engineer eased along to pick him up there. The engineer sat sidewise, looking for the fireman to

hop on, without noticing how close he was getting to the crossover. He crashed into the middle of my train, which was running at a good speed. The impact tore off three of the four trucks on my third and second to last cars, while my rear car, a smoker, climbed upon his engine. My vacuum brake failed, of course, and I pulled those wheeless cars along well toward the depot before I could stop.

"The BRB&L had no wrecking train, so Ned Gorham's shopmen got that smoker down with a block and hand tackle —a stupendous task, but he did it well and had the road open by daylight. Soon afterward, that same engineer, fired from the BRB&L, was running the miniature railroad at Wonderland Park and had another misfortune, toppling over his tiny engine and spilling a trainload of children. The last time I saw him was at my doorbell trying to sell insurance.

"Early one Sunday morning I followed the first day train out of East Boston, was flagged at Oak Island, and could see the train ahead of me held up. As I approached the stalled train I observed strewn along the right-of-way parts of guides, rods, and a piston rod. That locomotive, with Frank Adams at the throttle, had dropped just about everything on her right-hand side. One chunk of metal had nearly penetrated the front of the cab, giving Adams a close call. I pushed the crippled train to Orient Heights, where they got another engine."

Mr. Marshall recalls a sad experience on a Northrup branch run. "Swinging off Crystal Cove drawbridge on a sharp curve near Northrup Beach station, with only a few feet of warning, I saw a young man stub his toe while coming up to the track and fall directly across the rail on his stomach. I jumped off my seat, reversed, and gave sand, but— Well, I saw the unfortunate boy being lowered into his grave at the cemetery three days later as I was making a trip around the town.

"Children had a bad habit of walking on the long trestle at Wood Island Park; some were struck by trains and killed. One of the oldest engineers, Sam Ayer, lost his life from hanging out of his engine while pulling a train across Harbor View trestle. He was looking at a hotbox on his tender truck and fell on the jagged rocks below. Sam had a brother who was also an engineer on the BRB&L.

"The narrow-gage road started as a venture to sell real estate and developed into a well-paying enterprise of its own, with no outstanding stock on the market at any time. In its latter years it was sold to New Yorkers and eliminated, but the

Photo from Joseph Lavelle, 4615 - 66th St., Woodside, L. I., N. Y.

BRB&L'S Number 26 snapped at Orient Heights, Mass., in 1922 was eight years out of Schenectady's shops at that time. The 2-4-4's total weight was 100,000 pounds

Photo from R. H. Kindig, Denver, Colo.

WESTWARD EXTRA: D&RG's 3710, a 4-6-6-4, climbing Soldier Summit near Castle Gate, Utah. Numbers 3561 and 3509 are pushing

automobile cut heavily into its traffic. Although the employes raised money to keep the pike going, it finally had to be abandoned. The great coastwise boats that used to run between the East Boston terminal and Maine likewise had to cease operation because of the tin lizzie. These pleasant travel routes are badly missed by those who loved them."

* * *

FORGOTTEN ORDER. Looking back to a narrow scrape of fifty years ago last July, Barry Patterson, 1211 Filbert St., Oakland, Calif., recalls that it happened after he'd been braking for more than two years on a Norfolk & Western division so mountainous that the crew men in the engine cab could see the caboose only about three or four times on an entire run. He writes:

"One sunshiny afternoon, when I was head brakeman, we stopped at a way station where the train-order signal showed red. The fireman took on water and the engineer began oiling around. The conductor, contrary to rules, picked up all the copies of orders for the crew from the operator and gave the engineer's copy and clearance card to the swing brakeman to take to the engineer. The swing brakeman handed them to me with instructions to deliver them to the engineer. This I did, without reading them, while the gent with the oilcan was still lubricating around. Later on, I remembered seeing him stick the flimsies in his overalls pocket without stopping to read them, and continue oiling; but at that time I forgot about the matter and so, I believe, did the engineer.

"In those days a runner often looked upon his fireman as little more than a piece of machinery without sense enough to understand train orders even if he did read them. Since the N&W had no scheduled freight trains, we were running as Extra 2342 West, and our previous order read, 'Extra 2342 West will meet Extra 2734 East at Ironton.' The order we'd just received, as I learned later, stated, 'Extra 2432 West will meet Extra 2734 East at Coal Grove instead of Ironton.' We rambled around a curve in sight of the office at Coal Grove, our engineer whistling the customary four blasts for the Coal Grove signal showing red. The operator there changed the signal to *proceed* and we picked up speed to about forty miles per hour.

"Instead of dozing in the engine cab,

a head brakeman in the 1890s had to ride out on the train armed with a brake club. The patent automatic couplers and air-brakes were then coming into vogue and only about half of our train was equipped with airbrakes. Therefore, I was seated on a brake wheel with my back to the engine to keep cinders out of my eyes, five or six cars back of the engine. About a mile west of Coal Grove, as we rounded a curve, I heard a whistle blast.

"Looking around, I saw Extra 2734 East heading right into us but still some distance up the track. I started to run for the caboose. Too late! I'd scarcely gone one car-length when I heard a mighty crash and felt myself lifted off my feet, slammed down on a car top, and skidding for what seemed like the full length of the train. Then I sailed gracefully through the air until I landed on the ground with a dull sickening thud.

"If I lost consciousness, I must have regained it very soon, for I began running on my hands and feet, knocking down corn stalks. When my mind cleared I found myself about seventy-five yards inside of a corn field, uninjured except for bad bruises and scratches. Our train had been reduced to a steaming, smoking pile of scrap-iron and twenty-three cars were more or less demolished, turned over, crosswise and what have you.

"I expected to find both engine crews killed, but nobody was dead or even badly injured, except our conductor, who had broken a leg from being slammed from one end of the caboose to the other. Our flagman ran back to Coal Grove and found the operator with tears in his eyes, explaining he'd forgotten the order.

"As the wreck had occurred almost midway between division points, the dispatcher ordered out big hooks from both directions as well as a special engine and caboose to take the con to a doctor. I did not wait for the investigation but resigned as soon as we hit town, and headed West. The rest of our crew was fired."

Photos from H. L. Kelso

TWO VERSIONS of the *Los Angeles Limited*. Top is UP's train headed by Fairbanks-Morse Diesel at Victorville, Calif. Below, Pacific Electric's variation at Long Beach. The former IER cars show long door gates slated for revision this year

* * *

SOUTH AFRICAN Government Railways have been getting a lot of new locomotives and rolling stock recently, according to information just received from David H. W. Parsons, Johannesburg, South Africa. An order for one hundred Class 15-F engines has been completed, also an order for fifty each of classes 19-D and GEA. The GEA is a new type of Garratt engine. An order on new Class 3-E electric engines, mounted

on two six-wheeled bogies and developing 2500 hp and with 4-foot-diameter wheels, is almost completed.

Walter E. Thayer, Box 1588, Chelan, Wash., who relays this information to us from Mr. Parsons, was married in July to Miriam Capatske, of whom he says. "She'll make a good railfanette."

* * *

BEGINNING September 1st, the thrice-weekly streamlined *City of San Francisco* went on a daily basis, still providing 39¾ hour service between Chicago and the West Coast with departure and arrival times unchanged. This train is operated jointly by the Chicago & North Western, the Union Pacific and the Southern Pacific. Its first trip was made in 1936 on the basis of five round trips per month, but this number was increased first to ten per month, then three per week, and now daily.

Another Chicago-San Francisco streamliner owned jointly by those three roads. *The San Francisco Overland,* had its running time cut by 90 minutes westbound, 110 eastbound, on the same date.

* * *

POWHATAN *ARROW*. *"The Powhatan Arrow,* says Henry T. Crittenden, 909 E. 26th St., Norfolk 8, Va., is all that can be expected in rail transportation." Pulled by one of the 4-8-4 Class J engines, it rolls as smoothly as anything on wheels. The air-conditioned cars are the height of comfort. It leaves Norfolk at 7:30 a.m., stopping at only five places before it reaches Roanoke, 252.3 miles away. The train makes its best time between Suffolk and Petersburg, fifty-nine miles in fifty-nine minutes, which means that the speedometer reads seventy for longer periods than it does sixty, for there are several stretches where speed reduction is called for. This fifty-nine is the N&W's speedway. It is double-tracked with a continuous passing track between the east and westbound mains.

"West of Petersburg the right-of-way is extremely crooked. Walking down the aisle of a car on that section requires some care to keep from landing in a passenger's lap. Although the train I rode from Norfolk to Roanoke consisted of only six cars instead of the usual seven, the engine was nearly always in sight of my car windows, left or right side, as she swung into curve after curve.

"Our train crew was unusually courteous. The railroad company has gone to much trouble and expense to give the public what they've been howling for—safe, fast, comfortable transportation. No noise bothers the passengers, at least no noise that the company can avoid. All you hear on a warm day is the whine of the air-conditioning unit. No wheel click, no slap of couplers, no jerk or jolt. You glide along. Once in a while, by listening closely, you can hear the engine whistle. Now and then the porter appears with a broom and dustpan to remove a bit of dirt. The cars are so clean that you feel slightly uneasy.

"Darkness fell soon after we left Roanoke, 6:55 p. m. We were running so fast that our car didn't lean to the curve but away from it. It seemed to be doing its level best to take off at a tangent. The fifty-nine miles between Petersburg and Suffolk takes only fifty-seven minutes eastbound. You go like a dog after a rabbit. The engineer lets her roll until he hits the drawbridge over the river some five miles out of Norfolk union station, seventeen miles from Suffolk. We consumed exactly thirteen minutes on that distance from the time the train began to roll at Suffolk until the last car crossed the draw five minutes ahead of time. Suffolk to Norfolk, 21.9 miles, twenty-three minutes start to stop, with a slow order through Norfolk yard owing to new construction. Timetable allows 28 minutes for that run eastbound, only twenty-six westbound.

"The N&W has given this state a real train, an all-passenger, reserved-seat job, at no extra fare. If you want to get there in a hurry and be able to enjoy yourself after you arrive, ride *The Powhatan Arrow."*

* * *

RED HEADLIGHTS used on certain Union Pacific passenger engines intrigued Lester Harlow, Lt. Comdr., USN,

4215 S. 32nd Rd., Arlington, Va., on a recent trip to Wyoming. "In the event that a derailment fouls the adjacent track, the light can be turned on to warn oncoming trains on the other track," he writes. "At present UP passenger trains carry a rear light which operates when a certain amount of airbrake reduction is made. It can be seen for two or three miles."

As our correspondent may know, the North Western's H Class (4-8-4) engines have been using red headlights ever since they were first utilized in 1930. He adds: "Fans wanting to snap steam power at its maximum should station themselves west of Cheyenne, Wyo., where it is not uncommon to see two UP 'Big Boys' (4000 series) doubleheading up Sherman Hill. I saw this once while passing by and checked my information at the trainmaster's office."

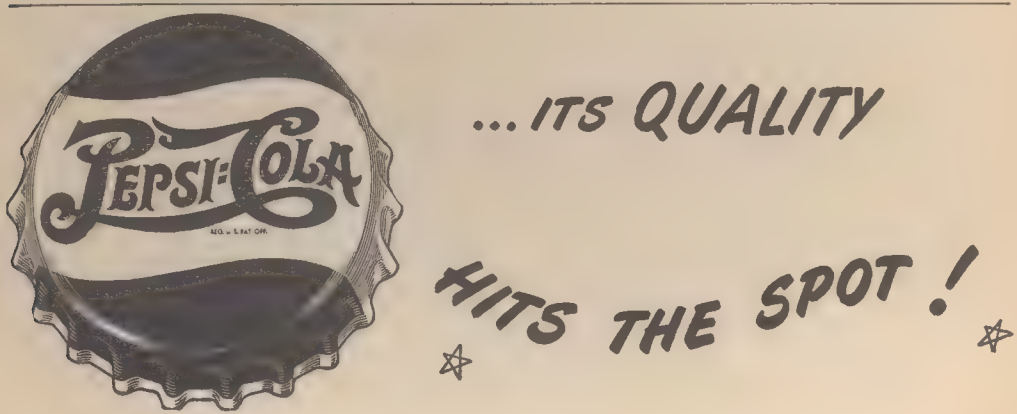
Getting back to headlights, he says: "To provide additional warning to track gangs, UP engines sometimes burn their headlights in daytime so the men can see them sooner. This is done because the UP has run few *regular* freight trains since before 1941. They operate as extras."

* * *

FORGOTTEN RULES. M. Clayton Orvin's article in our August issue unlocked memory's door for John W. Newbern, Rte. 1, Box 56-B, High Springs, Fla. Referring to the old single-tracked Savannah, Florida & Western (later the Plant System, now Atlantic Coast Line):

"A wooden post stood on a long curve halfway between Waycross, Ga., and Dukes, Ga., and an old rule stated that the first train arriving at this post had the right of way; the opposite train had to back up to the siding to let it by. I was never on a train while this rule was in effect, but a conductor named McColl called my attention to the post. He had been a conductor in the days when the rule was in effect and said he never knew of any trouble caused by it. All meeting points between trains were shown on the timetable. The train having the right of

CHRISTMAS CARD reproduces water color of railroad artist, John Rogers, is one of a number of designs featured by Designers and Illustrators this year



track had to wait thirty minutes for the other train, unless it arrived there in the meantime, before proceeding. Later, after they had train dispatchers, this time was cut to five minutes."

* * *

REWARD for two lads who averted what might have been a serious train wreck on the Barre & Chelsea recently consisted of a letter of thanks, a suitable gift, and a free ride on the new B&C Diesel, reports Francis E. Craddock, 51 Perry St., Barre, Vt. The boys are James William Hudson, grandson of a former B&C track foreman, and Erwin St. Cyr, both of Plainfield, Vt. They found and reported a cave-in beneath the track that had been caused by heavy rains. Train Number 3 was held in Plainfield three hours while a track gang made emergency repairs.

* * *

NEW LOCOMOTIVES on the Southern Railway of England have been named for celebrities or planes connected with the Battle of Britain, according to British Railways headquarters in New York: Winston Churchill, Lord Dowding, Sir Keith Park, Lord Beaverbrook, Fighter Pilot, Hurricane, Spitfire, etc. The literary taste of the London & North Eastern's chief namer of locomotives is obvious from the fact that some sixty of the company's engines bear the names of characters from Sir Walter Scott's novels. One LNER locomotive has been christened the *Humorist*.

* * *

TRAIN PARTY. George W. Wickersham II, rector of All Saints' Church, Norristown, Pa., is pleased because this year, as last year, the Reading Co. gave his son George a birthday party in the *Crusader's* swank dining car. The special decorations, favors, chicken pies and a beautiful birthday cake were enjoyed by a group of four wide-eyed children and three adults. The crew shared the cake.

Writing from Virginia, where he was vacationing, the rector says: "You should see the improvement job which the Chesapeake & Ohio is making on its Clifton Forge-Orange line. Evidently expense is no item in the matter of curve realignment, etc. A mountain division largely devoted to passenger service, the improvement presages speedier things to come. We arrived in Goshen on the day the old main line was cut there by a new more gradual curve. I took pix thereof, and the next day the old track was torn up. This change involves the abandonment of a fine bridge and construction of a new one. It thrilled me to see lines of bunk cars and hundreds of men strung out over a ten-mile distance. And this is only a small portion of the improvement project."

* * *

"HOLD onto whatcha got" is the homespun philosophy of Jesse Heidelberg, Southern Railway train porter on the NO&NE between Meridian and New Orleans, according to *Ties,* the Southern's magazine. Following this philosophy, Jesse has held onto his porter job since December 18, 1925, without ever having been "on the carpet," and has retained his 40-acre farm, refusing to sell even in the depression era, as a result of which he is now the proud owner of an oil well. After oil was discovered on his land, Jesse was asked by his friends to quit railroadin' and take life easy.

Jesse refused. "'Twouldn't do me no good to quit," he said simply, "'cause I wouldn't be happy doing nothing."

Jesse's grandfather came with a white family to Heidelberg, a lumber village on the NO&NE between Meridian and Hattiesburg, Miss., more than a century ago. His father, Will Heidelberg, now eighty-four, was born on a nearby farm, where Jesse, his two brothers and a sister were born later. His father, brothers and sister still live there.

As a boy fishing for "redbellies" in Bogahoma Creek, Jesse used to thrill to the ten-wheeler locomotives roaring by with strings of freight or passenger cars. At nineteen he got a job as an extra-gang laborer, but the spell of such glittering

trains as the *New York-New Orleans Limited* (now *The Pelican)* and the *Queen & Crescent Limited* prompted him to ask John T. Moon for a job as train porter. Jesse's appeal was made through A. M. Tipton, trainmaster, now retired. He was given a trial and has been portering ever since. The injunction, "hold onto whatcha got," is a heritage from his mother, recently deceased.

* * *

OUR AUGUST COVER, showing Central of Vermont engine 230, was well above the ordinary, is opinion of Harold B. Kimball, 22 Wolcott St., Medford, Mass., author of the true tale "Long Flagstop" in that issue. The cover so aroused Mr. Kimball's interest that he wrote to John Newton, engineer on *The Ambassador* the day of his stop at Roxburg, Mass., to learn what engine that train had. She was Number 231.

* * *

FIFTY-SEVEN years of service with the Southern Railway of England (including its predecessor line, the South Eastern) have become but a long series of memories to H. Cooke, recently retired, reports Arthur J. Richards, 21 Briarfield Rd., Tyseley, Birmingham, England. The oldtimer began railroading in 1889 as a coachmaker's lad at Ashford shops and in 1924 was appointed chief timber inspector. He was in charge of the first American car to be shipped to England in sections from the U.S.A. and put together at Ashford. This car proved to be so far superior to English equipment running on the SE that many American-type cars thereafter were built in England.

In 1896 Mr. Cooke received an order to build a steel car on the American pattern for Queen Victoria's Diamond Jubilee the following year. This car became known as the "biscuit box." After its first journey, people would stand for hours along the right-of-way to see it pass.

Mr. Cooke also recalls that when Kaiser Wilhelm II visited England in 1909 for the funeral of King Edward VII, he was blamed because the Royal train stopped some fifty feet short of the agreed spot and the Kaiser had to walk that short distance in the rain. The accusation that Mr. Poore erred in stating the Royal train's dimensions was quickly disproved; the mistake was that of some other man in mismarking the spot on the platform where the train should have stopped.

* * *

DIESEL vs. STEAM. "It always gives me a pain in the neck to see or hear someone go overboard for Diesels, as did F. T. James of the Lackawanna (quoted in our Aug. issue)," complains F. H. Sutton, 2967 Glenn Ave., Los Angeles 23, Calif. "In my opinion, the Lackawanna has not been using Diesels long enough to give Mr. James reliable data on the life of a Diesel as compared to steam power. Furthermore, Mr. James, like a lot of other authorities, compares new Diesels with steam locomotives as old as forty

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years, especially yard engines. I admit that any of today's Diesels could be kept running for forty years if rebuilt often enough, but the older they get the higher the maintenance cost.

"Mr. James says Lackawanna steam engines are given a complete overhaul every 50,000 miles, but most roads are getting between 150,000 and 200,000 miles between shoppings for steam engines built in the last ten or fifteen years. Perhaps the DL&W 3-cylinder engines gave them trouble, as did many of those engines, due to the extreme angularity of the short middle main-rod.

"As for availability, it is well known that any road obtaining a Diesel locomotive arranges for her to work continuously, if possible, because she represents a large investment, whereas, there being a surplus of steam power, no attempt is made to keep the old steamers chugging.

"During the war, when every steam engine was badly needed, Santa Fe's old steamers hung up an enviable record of availability. Extended passenger-engine runs, such as the Santa Fe has been making with their big Northern types, scored some fine records which will stand alongside those of any Diesel. The Santa Fe, greatest user of Diesel locomotives today, is justified in its huge expenditure for Diesels because poor water conditions and long fuel and water hauls across the desert have been a costly thorn in its side these many years.

"However, the Lackawanna, in the heart of coal country and with good water always available, does not have the same justification for a large outlay on Diesels, especially at a time when there is promise of new, more efficient coal-burners. The only real advantage I can see in the Diesel over the steam engine in yard service is cleanliness, plus the fact that it is always ready to go to work without waiting to raise steam."

From George Houston, 1932 Euclid Ave., Bristol, Va., we get word that the Southern Railway's Appalachian Division has just introduced a new method of hauling its immense coal tonnage from the rugged hill country of the St. Charles coal fields to the Dixie markets. This is a streamlined, 1947-model, four-section Diesel locomotive, which surprised spectators by towing the record number of eighty-seven empty coal cars, whereas the average Mallet, with ten driving wheels, hauled only thirty-five.

JESSE HEIDELBERG, train porter between Meridian and New Orleans on Southern Railway System

Onlookers, many of them miners, viewed the new sleek monster gloomily. They were disturbed to learn that she had just replaced six steam engines and that, consequently, the railway would need two or three less carloads of fuel daily from their coal fields. On top of that, the depressing news went around that the new locomotive, to which a fifth section may be added to increase its tonnage still further, would put fifty or sixty railway men out of work, including men from the six train crews that had been running the Mallets, five depot telegraphers, and maybe a score of maintenance men, shopworkers, etc., who had been kept on the payroll to cater to steam power. It is obvious that with one train replacing five or six, manpower will be cut.

The new Diesel locomotive, weighing 320 tons and covering more than 200 feet

of track, can haul sixty cars of coal from the St. Charles field up the steep north-fork gorge to Appalachia, Va., whereas it is said that the Mallets had tough sledding to make the shorter distance to Cross Hill. Noteworthy is the contrast between Diesel and steam hogheads, the former dressed nattily in blue suits without smudge or dirt, while the steam runners wear long blue denim and their faces are often covered with sweat and soot.

Another Diesel item comes from Arthur H. Bronk, 1101 N. 3rd St., St. Louis 2, Mo., who sends us a *St. Louis Post-Dispatch* clipping about a runaway Diesel yard goat. It seems that a few weeks ago the switch engine, Number 19, unattended, attained a speed of sixty miles per hour on its dash from Alton to a point within fifteen miles of Springfield, Ill., giving the Alton Railroad (now GM&O) a bad hour and a half.

The engine had been standing in the Alton yards, her motors chugging at idle speed, after the engine crew had left the cab. A yard workman, preparing to clean her, entered the cab, turned on the cab lights and stepped down again. When he turned around he saw the Diesel start off under her own power, quickly gaining such momentum that no workman could overtake her afoot. The railroad force went into action. The Alton dispatcher telephoned Chief Dispatcher E. D. Lacon at Bloomington, Ill., and Lacon began organizing the pursuit.

A switchman at Godfrey, four miles north of Alton, was instructed to "open the gate" putting the maverick on the main line to Chicago. A passenger train from Chicago, then east of Springfield, was hurriedly sidetracked and the main stem was alerted for trouble. Station hands were placed at every crossing in the danger zone to stop all highway traffic. Other gandy dancers greased the rails at several points in an effort to stop the runaway.

A 75-car freight train, tooled by Engr. R. W. Tipple and headed in the same direction as the yard goat, speeded up to about sixty m.p.h., keeping ahead of the runaway until, with a jar, she coupled onto the rear of the caboose. Engr. Tipple kept a steady hand on the throttle, gradually slowing his train against pressure from behind and at length stopped. The runaway had covered about sixty miles.

* * *

OLD READER of *Railroad Magazine* is R. G. Hilyard, Wilson's Beach, Charlotte, New Brunswick, who has been buying the magazine, off and on, almost since its inception in October, 1909. The magazine at that time was called *Railroad Man's*. Our correspondent has a slightly clipped issue dated July, 1911.

* * *

SPORTS for employes are being financed in part by the Chesapeake & Ohio management, the company paying one-half the expense of uniforms, equipment or other incidentals necessary to starting or maintaining a program in basketball, baseball, football, tennis, golf, bowling, or any other sport in which a

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* * *

TWO NIGHTS of train riding, plus day travel, took Leon R. Franks, of the National Railway Historical Society, from New York to Los Angeles. Mr. Franks, who lives at 215 W. Vine St., Lancaster, Pa., writes:

"Examine the *Official Guide;* seen all routes through Chicago, St. Louis and other gateways, and you will find *three* nights required in each direction on even the fastest railiners. The 39¾-hour streamliners take two nights in addition to one out of Chicago or St. Louis. But we pulled a rabbit out of the hat, and here's how:

"Leave New York on the Pennsy's *Jeffersonian* at 6:15 p. m. Arrive at St. Louis at 1:40 p. m. the following day. Leave St. Louis at 3:30 p.m. on Wabash Number 9, reaching Kansas City, Mo., at 8:25 that night. Spend the night in K. C. Depart. At 8:30 a. m., the third day of your trip, board Number 3 of the Rock Island and Southern Pacific, pulling in at L. A. at 8:30 p.m. on the fourth day.

"In other words," Mr. Frank exults, "this 12-hour layover at K. C. (eastbound only) plus the elimination of one leg of the Chi-K. C. triangle, replaces the traditional second night on the train. Thus you get a much-needed break in the journey which totals 77½ hours elapsed time, about 63 being actual riding time. By using the Pennsy's *Sunshine Special* to St. Louis, leaving New York at 9:30 p. m., and shortening the overnight time through riding the Missouri Pacific train which hits K. C. at 11:55 p. m., the actual time is cut by 3¼ hours.

"You can't plan such an itinerary eastbound via any routing, but you could have done it on the old *El Capitan* schedule of arriving at K. C. by 11:30 p. m., allowing an overnight stay, returning the next day to St. Louis, and riding either the *Spirit of St. Louis* or *The Jeffersonian* to New York. Why do railroad schedule-makers ignore the element of fatigue? All through-car service takes three consecutive nights from coast to coast via Chicago. Two nights are plenty."

* * *

DISPUTANTA is the odd name of a Virginia town on the Norfolk & Western ten miles from Petersburg. This name long piqued the curiosity of William B. Gwaltney, 2808 Kimball Terr., Norfolk, Va. Bill tells us that the other day he heard the following legend: William Malone, a Civil War general who built the Norfolk & Petersburg Railroad (now part of the N&W), had a dispute with his wife over what to name the village. As a result, the place was called Disputanta, and the name has stuck ever since.

We learn from H. R. Landis, 32 Bishop St., Albans, Vt., that the Canadian Pacific has a station named Enlaugra in Quebec Province 65.7 miles east of Montreal. The word is formed from the names of the three daughters of Alfred Price, who was general manager of the CP's Eastern Lines: ENid, LAUra and GRAce. Mr. Price retired in 1922 and died in '29.

* * *

SIXTY-ONE miles of railroad, once the boast of Hall, Howard, Greeley and Valley counties, Nebraska, is but a shadow of its departed glory, for this line now supports only a tri-weekly mixed train, reports John R. Conant of *The Daily Independent,* Grand Island, Neb. The pike is the Union Pacific's Ord branch, which runs north out of Grand Island through St. Libory, St. Paul, Elba, Cotesfield, Scotia, North Loup and ends at Ord. Most of its mileage traverses the fertile valley of the North Loup River. Until June 1st it supported a daily-except Sunday mixed train, Numbers 83-84, but on that date the train was dropped into the thrice-a-week class, still handling freight, passengers, mail, express and baggage.

With the 67-year-old branch deteriorating in the face of truck and bus competition, Mr. Conant decided to make a round trip over it while there was still a train

to ride between Grand Island and Ord. He writes:

"Number 83, with a Baldwin consolidation engine built in 1900, was waiting at the Grand Island depot when I arrived. This locomotive had originally been a compound numbered 1680, but years ago was simplified and given her present number, 460. The train included a medley of stock bars, box cars, oil tanks and a pair of combination coaches. At 7:30 a. m. we pulled out of town, past the Grand Island Army Air Field where hundreds of B-29 crews were trained during the war.

"The engineer kept a leisurely pace of twenty-five miles an hour, since he's allowed three hours to make the sixty-one miles to Ord. Beyond St. Libory the track swings a bit to the northwest, then continues its easy climb. Crossing the Middle Loup River on a steel truss bridge, we stopped at the St. Paul depot at 8:10. The crew set out several cars, including one of the combinations for another crew to take over the Loup City and Pleasanton branches.

"Back in 1870, St. Paul had issued $20,000 in bonds to aid in building the railroad from Grand Island; and soon the town had become the shipping center for the country to the north and east. By 1887 the line was completed to Ord, its present terminus. As we left St. Paul at 8:20 we saw evidence of the richness of the agricultural and livestock-raising country. Next came Elba, at 8:40; then Cotesfield, a village of 134 people, where the valley narrows and gleaming rails skirt the bluffs of the river's south side. Beyond that, a chalk mine high on the bluff affords freight revenue for the branch. The mine is served by a blind siding, Weekes Spur.

"At 9:13 we reached Scotia Jet. In '82, when the road was built, Scotia was marooned a mile away from it, but in '83 a spur was laid across the river to that town. Westbound trains pause momentarily while a brakeman opens the gate, then head into Scotia on the spur. When their work is finished, the crew backs the train out over the spur to the main line for the rest of the trip. Scotia Jet, is marked by a huge windmill, a water tank and a plug.

"Beyond Scotia the valley widens again and the train enters what is known as the nation's popcorn center, around North Loup. We left that town at 9:50 and crossed the Burlington track for the third time on our trip, reaching Ord at 10:30. There the crew is supposed to have a four-hour rest, but part of that time is consumed in switching and turning the engine for the return run.

"On our way back, business was exceptionally light. We left Ord with only two cars—one empty oil tanker and the combine. At St. Paul we picked up two empty coal cars and the other combine, from the Loup City and Pleasanton branches. It is sad to reflect that this line used to support a passenger trains' round trip in addition to the mixed train—both daily.

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While the track is far below UP main-line standards, it is kept in fairly good shape.

"The future of this branch is not bright. The same holds true for most of Nebraska's branch lines. Only the early settlers who had to haul their supplies by wagon for fifty or sixty miles can fully appreciate the glorious part the railroad played in developing the North Loup Valley."

* * *

SUPERSTITION is common to most railroad men, according to Ernest R. Biggin, 3301 Morgan Ave. N., Minneapolis 12, Minn. Mr. Biggin says that he himself is not one of the relatively few exceptions. Here is his story:

"Practically every night in the week, between midnight and one a. m., we had a transfer engine which ran between our yard, the lower yard, to the railway transfer yard. This engine usually had a long drag of loads and empties. A slight uphill led out of the transfer yard, so the engineer had to give her the works and make a good run to our yard. When the drag was exceptionally long, she had to pull into what we called the north yard, a good mile run.

"I was yard-clerking. If I didn't catch onto one of the cars or the engine footboard, I'd have to take quite a walk. Most mudhops are adept at catching on. It was not exactly safe, but most people take what they think is the easiest way out. I would wait at the crossing for the transfer job to tear by, not always at slow speed, with maybe forty to sixty cars. I was one of those real smart guys. I didn't catch onto the side ladder of a box car; not me, I'd jump on the engine footboard between the engine and the first car.

"This I did so often without slipping that I grew cocky about it. Rain, hail, blizzard or fog, I made it okay every time, until one night when, just as I was about to jump, an invisible wall seemed to spring up between me and the engine. Seared by a premonition, I did not jump. Why, I do not know; maybe the little finger of Fate stopped me short. Never again did I attempt that kind of jumping."

Mr. Biggin hopes that other "rails" who have acted on hunch—or refused to act—will write their experiences for this department.

* * *

MINNIE WEBB, the 14-year-old girl once thought to have been doomed as a lifetime cripple, is walking today in her home town of Covington, Tenn., because of the generosity of Illinois Central train crews to whom she had waved a cheery greeting each day as their trains roared by. One night the *Chickasaw Limited* made an unexpected stop beside her home in the river bottoms, Minnie was taken aboard, and a successful operation was performed at the Shriners Hospital for Crippled Children in St. Louis. Now Minnie has put aside her wheel chair and, doctors predict, it won't be long before she discards her crutches also. While we rejoice in Minnie's good fortune, we wish that means could be found for giving similar treatment to the thousands of other needy crippled children who live beside railroad tracks throughout the country.

* * *

LAST STOP is the Reader's Choice Coupon *(page 145)*, which guides your editorial crew in selecting material for future issues of *Railroad Magazine*.

Some readers use the coupon. Others prefer not to clip the magazine; they send home-made coupons, postcards or letters. Regardless of how votes are written, all count the same. Results of balloting on the October issue show as follows:

1. Kansas City Southern, *Draper*
2. Water Power vs. Oil, *Neuberger*
3. True Tales of the Rails
4. Light of the Lantern
5. Electric Lines
6. On the Spot
7. Fan Trip in C.B.I., *Korst*
8. Locomotives of the Nickel Plate
9. Killer McGoon, *Slattery*
10. Conductor Watson's Retirement, *Mills*. Most popular photos: pages 50, 62, 12-13, 61, 122 and 30

Railroad Camera Club

ITEMS sent to the *Switch List* and *Model Trading Post* are published free, in good faith, but without guarantee. Write plainly and keep 'em short. Print name and complete address.

Because of time needed to edit, print and distribute this magazine, all material should reach the Editor eight weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by latest Reader's Choice coupon (clipped from page 145 or home-made).

Due to scarcity of space, we prefer that no reader be listed here oftener than once in three months.

Use these abbreviations: *pix,* photos; *cond.,* condition; *ea.,* each; *elec.,* electric; *env.,* envelope; *eqpmt.,* equipment; *esp.,* especially; *info.,* information; *n.g.,* narrow-gage; *negs.,* negatives; *p.c.,* postcard; *pref.,* preferably; *tr.,* train.

The term *tts,* refers to public timetables, unless preceded by *emp.,* when it means employes' (operating) timetables.

(R) indicates desire to buy, swap or sell back issues of *Railroad Magazine* or its predecessors.

(*) indicates juicefan appeal.

RAILROAD CAMERA CLUB is open to all who collect railroad or streetcar pictures or other railroadiana such as time tables, passes, train orders, trolley transfers, magazines, books, etc. There are no fees, no dues.

Membership card and pin are given free to anyone sending us the latest Readers Choice coupon and a self-addressed stamped envelope. If you don't want to clip page 145 make your own coupon. Address *Railroad Magazine,* 205 E. 42nd Street, New York City 17. Tell us what you want or what you offer; otherwise your name will not be printed here.

Switch List

K. D. ANDERSON, 2022 E. Lee, Tucson, Ariz., will sell SP Tucson Div. compl. trip tr. ords., clearance messages, 10c; troop trs., 15c.

ED BEACHAM, 4443 Mont Eagle Pl., Los Angeles 41, Calif., offers 100 ft. rolls 16 mm. movies Yosemite Valley RR, Nevada Co. n. g., Sierra RR $10 per roll.

(R) C. A. BIRD, 536 Fifth Ave So., South Saint Paul, Minn., will sell not swap *Railroad Magazine,* rulebooks, emp. tts., passes, tkts., *Canadian Off. Guides,* tr. ords., pix collec., tokens, etc. List for stamp.

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Dynamic action-packed reels of gorgeous Kodachrome color film for the discriminating collector. Descriptions and prices listed. 20% less for black and white copies. Order by title.

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6. B & O at Grafton, W. Va. Fine shots of the sleek "Cincinnatian" coach streamliner with its streamlined Pacific type engine. Also two shots of the latest articulated engines as well as some of 2-10-2 engines.
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7. RICHMOND-WASHINGTON, C & O, SEABOARD, SOUTHERN and A C L trains operating over the Richmond-Washington line near Alexandria, Va. About 35 feet of this reel also includes shots of fast Pennsy trains.
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8. BESSEMER & LAKE ERIE. Heavy drag shots where coal, ore and limestone are chief products hauled. Huge 2-10-4 engines do the work. Two passenger shots of a light Pacific.
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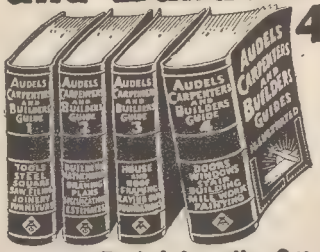
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Rich Bros.' All-America Prewar Quality ASSORTMENT. Over 200 pieces including 100 2" Salutes, Cherry Flash Bombs, Flitter Krackers, Comet, Whistle Bomb, 2 Shot Repeaters, Buzz Bomb, Whistle Devil, Humdinger, Fountains, Roman Candles, Aerial Bombs, Sparklers, PLUS 12 Packages Chinese Firecrackers including some of the FAMOUS ZEBRA BRAND. FREE PUNK!

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Shipped Ry. Express Only. None sent C.O.D. Enclose M.O. or Check. Name nearest Express office. Print name and address plainly.

Many other assortments and displays. Send for FREE catalog. Write for FREE Cap and Pistol circular.

A. F. KAISER, Niagara Sprayer and Chemical Division, Middleport, N. Y., will sell Pac. type ¾" scale 4-6-4 live steam loco parts; compl. machined eng. frame, bronze driving box, equalizers, brake hangers, pony equalizer trucks; bed, trucks are ⅛" CRS; work done by rr. tool maker; 6 machined castings, main drivers; will furnish pix if desired.

FRANZ KARN, 2713 So. 13th St., St. Louis 18, Mo., forced by housing shortage to sell new home workshop, lathe $195, band saw $35, table saw, $40, drill press $45, emery wheel, tools, Cash f.o.b. Also sells O gage 1/42 AF locos, 4-6-4, 4-6-2, Hudson, Pac. Atlantic; ⅛" AF trains, cars. Wants Maerklin HO '47 trains.

LOUIS KATZIANER, 66 Jubilee St., New Britain, Conn., has one Lionel loco O gage Penn. type 6-8-6 steam turbine, perf, running ords., $25 minimum.

WM. McCALL, Box 155, West Winfield, N. Y., will sell AC Gilbert O gage elec. tr., 1 PRR eng., 6 cars, 2 pr. elec. switches, 2 automatic uncoupling secs., 50 pieces track, houses, bridges, autos, etc.; to highest bidder. Write for further details.

FRED MATHESIE, 59-16 Summerfield Ave., Brooklyn 27, N. Y., has HO gage, 6 residences, church, diner, gas station, factory, coal sta., swap for 9 knuckle couplers; also guitar to swap for frt. cars or 2640 Pullman cars, or O gage eqpmt.

FRANKLIN MILLER, R.F.D. 1, Ontario, Calif., will sell 1 dock side switcher, 4 cars, 1 switch, 12 pieces track HO gaga, 2 months old, $25.

JACK R. OLDHAM, 1512 E. 118 St., Cleveland 6, O., will trade, '34 Lionel 4-car frt. tr., good cond., for any amt. Lionel 072 curved track (not solid T-rail), not necessarily new. Best offer track takes it. Write for details.

FRANCIS ORAVEC, 117 D St., Johnstown, Pa., will sell Marx tr., transformer, O27 gage; or trade for Lionel eqpmt.

O. A. PARRIS, 6527 S. Aberdeen St., Chicago 21, Ill., will sell OO gage 2-rail eqpmt., frt. cars, $5; pass. cars, $6.

JOHN S. SAWVEL, Jr., 1409 College Dr., Pineville, La., will sell Lionel O27, 2 cabooses, 2 boxcars, 1 hopper, 1 flatcar, 1 dump car, 1 gondola, 1 single light floodlight car, 1 floodlight with 2 lights, 1 oil car, 3 transfs. (2 with built-in whistles); cars $40, transfs. $4.50 ea. Wants Lionel O gage curves, elec. switches, 2 pr. Write cond., price.

JOSEPH SCHUSSMANN, 449 Bloomfield Ave., Caldwell, N. J., has HO eqpmt., excell. cond.; will sell, swap for items New York & Greenwood Lake Ry. (Erie) prior '45. Send for list; state offer.

MAURICE SELVIN, 41-14 Vernon Blvd., Long Island City 1, N. Y., wants Lionel O27 switcher, tender, 1665 LT, good running cond., also power trolley, same gage. State price, cond.

FREDERIC SHAW, 542 18th Ave., San Francisco 21, Calif., will buy toy steam engs., any cond. Also wants steam trains, 12" gage, larger. Write giving details.

WM. J. SMITH, 715 Florence St., Allentown, Pa., has Lionel O gage track, auto. switches, manual switches, cars, engs., accessories, good cond. List for stamp.

R. H. STEINMETZ, 238 N. 2nd St., Wormleysburg, Pa., wants O gage trolleys, any cond. With or without motors.

OSCAR STOOS, Box 126, Copper City, Mich., has O-gage frt., pass. cars; str., curved tracks for sale. Send for list.

DANIEL M. TWOMEY, 7 Maine Terrace, Somerville, Mass., will buy Ives O gage D.T. tinplate box or gondola cars; also AF O-gage frt., or pass. cars.

Flagstops

CALL for shortline fans. Special August edition of *The Crown Sheet* contains a listing of all shortlines in the U.S., Canada and Alaska, listed by states or provinces, plus abandonments from 1942 thru '47. Copies can be obtained from offices at 23 Parker Ave., Cranford, N. J.

ANNUAL convention of National Model RR Ass'n held last August in Oakland, Calif., nominated Vernon P. Guess, Santa Barbara, Pres.; Earl Rublin, V. P.; Don Pierce, Sec'y; E. A. Ravenscroft, Treas. Next year's convention will be held at Atlanta, Ga.

SAN FRANCISCO branch, Railroadians of America, meets second Tuesday of month in church basement, 19th Ave. and Judah St.; take "N" car to door. Short talk, movies and refreshments. Visitors welcome.

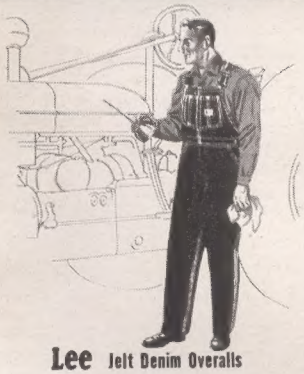
"I don't wear the pants, but I buy 'em, and...

Lee

1948 models are here"

Buy LEE Work Clothes . . . at Leading Stores Coast-to-Coast

THERE'S A LEE FOR EVERY JOB!



Lee Jelt Denim Overalls

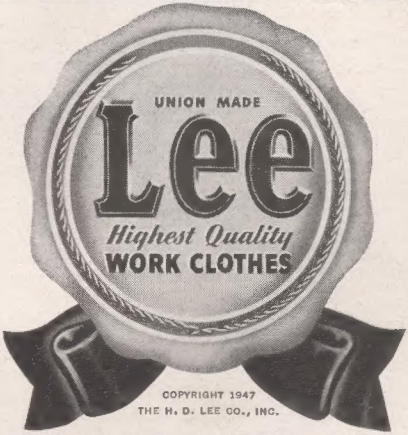
Lee Matched Shirts and Pants

Lee Boys' Riders and Overalls

"Like a lot of wives, I buy my husband's work clothes and I'm glad to get all the extra value features in the 1948 models, that make Lee Work Clothes so outstanding.

It's no surprise to us that, for eight straight years, Lee has won first place in a nation-wide preference poll* . . . or that Lee leads the next brand by 6-to-1."

*Nation-wide survey conducted by a prominent publisher on the question: "What brand of overalls do you prefer?" Lee Jelt Denim Overalls led eight straight years . . . the last two years by 6-to-1 over the next brand.



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Fast, constant heat. Heats in a minute or less! Maintains pre-selected heat constantly.

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So powerful it produces sufficient heat to keep an average size room comfortably WARM.

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Fits every make and model car—even those with automatic transmission.

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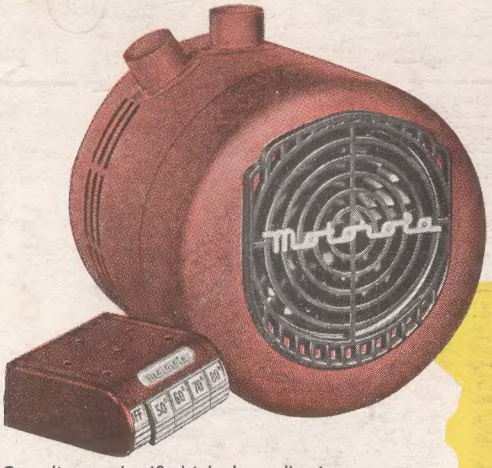

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